AUGUST, 1915

ELECTRICAL MERCHANDISE AND SELLING ELECTRICITY

Published by THE RAE COMPANY New York Office, 17 Madison Avenue

All factories are equally dead at night, but the live ones have Federal signs.

You will see them displayed prominently along the lines of the leading railroads in the country where they reach the traveling public.

Federal Factory signs operated by Central Station service or by isolated plant service furnish low-priced national advertising.

Our wide experience is at your service.

Federal Sign System (Electric)

NEW YORK
1790 Broadway

CHICAGO
Lake and Desplaines Streets

SAN FRANCISCO
618 Mission Street

Lighting Time

WE are rapidly approaching "lighting time"—that time when people naturally think of lamps and lighting as the days grow shorter.

Lamp sales take a decided jump in September. The size of the jump is measured by the effort put forth by Dealer, Jobber, Central Station and Manufacturer.

Nothing can be accomplished without a definite sales and advertising plan worked out cooperatively by manufacturer and distributor. Hit or miss publicity counts for little.

So now is the time to decide on what *you* are going to do. Let us suggest that as the first step you communicate with our nearest District Office to learn of our plans. *We can help you materially.* We can't do it all but our assistance is yours for the asking.

New advertising material is ready and campaigns are laid out. Our District Managers and sales representatives are men who can offer you valuable advice.

And back of all this is the name *Westinghouse Mazda*, representing highest quality and perfect service.

Take advantage of this opportunity *now.*

"Guaranteed by the Name"

Westinghouse Lamp Company

Atlanta	Cincinnati	Los Angeles	Portland
Baltimore	Cleveland	Milwaukee	St. Louis
Boston	Dallas	New Orleans	Salt Lake City
Buffalo	Denver	New York	San Francisco
Butte	Detroit	Philadelphia	Seattle
Chicago	Kansas City	Pittsburgh	Syracuse

Export Sales Department—165 Broadway, New York City

Member Society for Electrical Development—"DO IT ELECTRICALLY"

WAITING

FOR OUR

DEMONSTRATION

will never convince the people of your city that they are missing something.

SEND US

the information that you can place current-using necessities on your lines and let us show you how people become alive to the advantages of Electric Cooking and substitute it for the wasteful methods now used.

OUR DEMONSTRATION

and Sales Crew stimulates popular interest and makes it plain that

YOU ARE MISSING SOMETHING

when you don't take advantage of the profitable Electric Cooking Opportunity they are building for you.

They work winter and summer the year round—as long as people cook and eat. Write for *our demonstration prospectus* NOW.

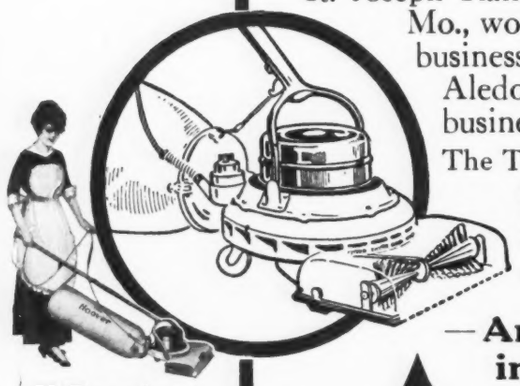
The Standard Electric Stove Co.
TOLEDO, OHIO

ELECTRIC COMPANIES
getting big business
on Hoover Suction Sweepers

All the prizes in our Panama-Pacific Contest for Hoover dealers were won by electric companies. Toledo Railways & Light Co. of Toledo, won the prize in cities over 100,000 with a business from March 1st to July 1st of $16,000.

St. Joseph Railway Lighting Heat and Power Co., St. Joseph, Mo., won first prize in cities of 25,000 to 100,000 with a business of $6,000. Bolton Electric Company, of Aledo, Ill., in a city of 2,400 won third prize with a business of $2,000.

The Toledo prize-winning company only did a fraction of their present business on electric cleaners until they started to push The Hoover—the same is true of the other prize-winners—and of dozens of other dealers who are making a big profit every month on Hoovers.



X-Ray view See the electric-driven brush.

—And here's the reason why Hoovers increase electric cleaner business

It's the *one* electric cleaner THAT CLEANS THOROUGHLY. It makes the *suction effective,* by the sweeping and shaking action of the patented Hoover motor-driven brush.

This power driven brush of soft hair, sweeps up the fast-clinging threads, lint, hairs (which other vacuum cleaners don't get) vigorously shakes the floor covering, shaking to the surface the heavy, imbedded dirt (which is not dislodged by other cleaners) so that the powerful suction is able to carry away *all the dirt.*

Mail the coupon for special proved plan for increasing profits for electric companies

We'll tell you how to have proportionately as much business and make as much profit as the Toledo Railways & Light Co. and the other electric companies that are breaking records with the Hoover.

Get The Hoover for free inspection

We will also send you a Hoover Suction Sweeper, express prepaid, for your inspection, so that you can test it out for yourself, and see what a wonderful machine it really is.

Sending the coupon won't obligate you—will cost you nothing except the stamp for mailing—and it will put you face to face with one of the best chances to increase your profits you have met for a long time.

The Hoover Suction Sweeper Co., 901 Maple Ave., New Berlin, Ohio

The Hoover Suction Sweeper Co., 901 Maple Ave., New Berlin, Ohio.

Gentlemen:—

[ ] Send me full particulars of your proved plan of increasing the sale of electric companies on Hoover Suction Sweepers.

[ ] Send me a Hoover Suction Sweeper, express prepaid, for my inspection. I will return it at the end of ten days, or negotiate with you for the sale.

Firm name .....

Address .....

P. O. ..... State .....

Signed .....

ELECTRICAL-MERCHANDISE AND SELLING ELECTRICITY

Vol. XIV. No. 8 Edited by FRANK B. RAE, Jr. $1.00 a Year

Industrial Trucking—A Neglected Opportunity

Profit to Customer and Central Station in Abolishing the Hand Truck and Barrow for the Modern "Electric Stevedore."

By B. F. Tobin

THE most remarkable thing about the electric industrial truck—"electric stevedore," as it has been cleverly christened—is that so few men in the central-station industry appreciate its wide application, its economic value and its revenue-paying possibilities. The industry has been "sold" on the lighting proposition, the individual-motor-drive proposition, the vehicle proposition as applied to street hauling and pleasure cars, the household-appliance proposition, and the electric-sign proposition. Each of these fields is an acknowledged opportunity for the sale of current and for fair merchandising profit on the goods involved. Recently, it has been evident that the industry is "sold" also on the industrial-electric-heating proposition, but industrial trucking so far has had to fight its own way in very limited fields and without the cooperation of the central stations.

Yet as an opportunity for both sales and service, the industrial truck is very much worth while. It is easy to sell and requires no highly specialized knowledge on the part of the salesman. It pays a decent profit as a piece of merchandise, and its consumption makes it a very desirable addition to the load because it is off-peak business, which requires no plant or line investment. And from the standpoint of the customer, it is a very good buy.

Its economy to the customer is what appeals first. Some of the figures on this subject are almost unbelievable; as for example, a report on comparison between hand trucks and industrial electric trucks on the Cunard piers, New York. The data which was submitted to the Interstate Commerce Commission and therefore to be accepted as authoritative, shows that in handling macaroni in boxes, six electrics did the work of 24 hand trucks; that in handling grapes in barrels, two electrics did the work of 21 hand trucks; that in handling casks of wine, seven electrics and 13 men did the work of 36 men rolling the casks in the usual way. In the first example cited, the

Negro labor, admittedly unintelligent and averse to innovation is readily adapted to the simple mechanism of the industrial truck

saving in money amounted to $66.60, the entire cost of performing the work electrically being $21.00, while it cost $87.60 to do it by hand.

Too much cannot be said yet on this subject of comparative costs, because there does not appear to be much available data except for operation on piers, in freight terminals and for baggage handling. In such service, and under conditions really adverse to the electric truck, it cuts the cost per ton squarely in half. Dependable figures have been gathered in some cases which show the cost per ton for manual handling to be a fraction less than 25 cents, while the cost to do it electrically is but 10⅓ cents. And this cost, be it understood, allows 20 per cent higher wages to the operators of electric trucks, whose work is comparatively light and pleasant, than the wages of the stevedores whose work is the most gruelling drudgery. On this subject, let me quote from Albert J. Marshall, secretary of the Electric Vehicle Association:

"It is obviously too early to determine to the last cent just how much can be saved by the adoption of these small trucks. The labor item is the most important. It has been found where the trucks can be kept busy and the hauls average 200 to 800 feet, that each truck will displace at least four, and often five and six men. Although the initial cost of the electric industrial truck, which is $1000 to $3000, looms large when compared to the cost of hand equipment, this first cost will be saved in four and one-half months with careful operation and if a machine will pay for itself in this short time, what does it matter whether it costs $1000 or $5000? With enough work to keep it busy, the economy and capacity of the "electric stevedore" is little short of amazing."

As in all applications of electricity, the scope and flexibility of the industrial truck seems practically limitless. While it is true that these vehicles have been employed mostly in the handling of freight and baggage at terminals where the congestion practically prohibited a continuance of manual labor, they, nevertheless, have been used in a very great variety of service and with invariable satisfaction. Again quoting from Mr. Marshall:

"Electric industrial trucks are now

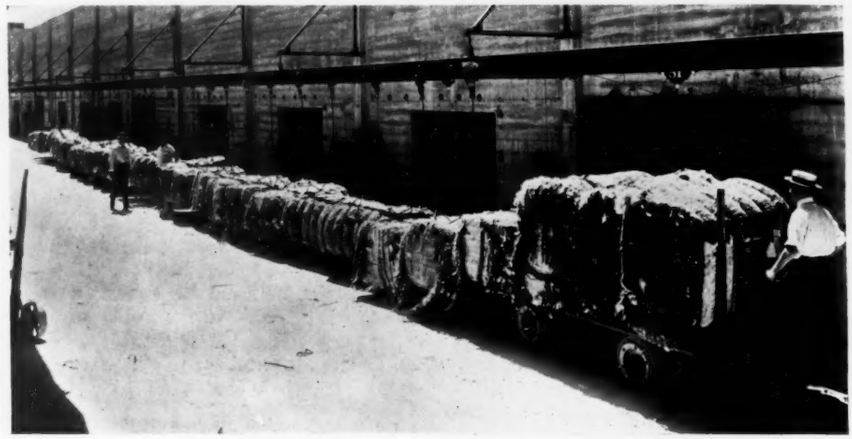
being used to a very great extent in factories and industrial plants, and more and larger installations are being made continually. In shop and mill transportation, in storage supply and provision warehouses, even in building operations, the electric industrial truck finds extensive fields for usefulness. A valuable application of the "electric stevedore," equipped with a crane, is in laying street curb stones. In warehouses they are used for hoisting, in packing motors and other internal operations. Motor car and other manufacturers are beginning to regard the electric truck as indispensable. Warehouses and mills are constantly finding new uses for them as the number of different types increase. The Government has adopted them for its arsenals, and a recent special application is found in the new buildings of the Boston Children's Hospital where it is being employed to do the work formerly performed by four men. This truck is used for the transportation of food from the kitchen to the elevators, for collecting and distributing washing, and for other odd jobs, and is operated in all about twenty miles per day. It is geared to run at six miles per hour, and is charged every other day.

"According as necessity has created the demand, various types of these trucks have been developed. They are made small enough to operate in the aisles of factories and storage warehouses, to run on elevators and into freight cars, yet they carry from one to two tons, the latter being standard capacity. They possess sufficient power to haul trains of trailers, and they can climb grades that would tax the power of mules, and would be impracticable for hand trucks. Elevating transfer trucks have been developed by which it is possible to pick up, carry away, and set down interchangeable false platforms with piles of goods on them by automatic means, thus eliminating the last item of hand labor, the loading and unloading of the trucks."

The electric industrial truck has no competitor except the hand truck and the mule. In other words, the only competition is between motor and manual and mule labor. This means that such a truck can be sold wherever enough stevedores or roustabouts are employed to balance the investment charge against wages and leave a profit. The reason why electrics have no competition is because of their safety. No other mechanical motive power could be employed in warehouses, piers, terminals, factory stock rooms and similar places. Man, mule or motor are the only means of handling goods where there is any fire risk. Mules are dirty and opinionated. Men of the class who do this sort of work require both superintendance and surveillance. Motor trucks are clean, silent, odorless, honest and ever-ready.

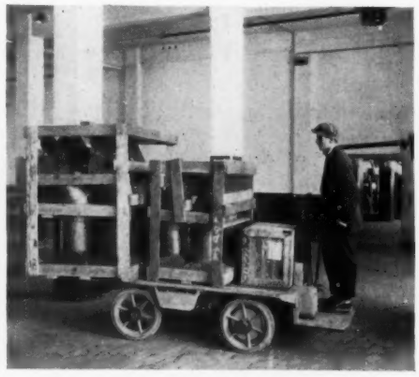
A vital point in their favor is the fact that their simplicity and ease of operation permit the employment of the cheapest labor. One of our illustrations emphasizes this point: in the south, we find electrics being operated by negro stevedores whose only previous mechanical training had been gained in tooling a hand truck and whose manual dexterity and mental adaptability had been limited to a bale hook and a banjo.

A short description of the operation of an electric industrial truck will show its simplicity and safety. The controller is inclosed and an automatic cut-off switch minimizes accident. One handle is used as a controller lever, and the other handle for steering. The controller returns to neutral as the hand is removed from the lever. The cut-off switch cuts off the power when the foot is removed from the brake pedal; in other words, the driver applies the brake simply by releasing the pedal with his foot, and as he releases the pedal, the power is cut off automatically. The driver, standing



A single G. V. industrial truck pushing 25 bales of cotton along overhead conveyor. The truck itself is loaded with four bales and has no difficulty in attaining maximum speed

erect on the end of the truck, with hands on the controller and steering lever, and one foot on the brake pedal, is in the best possible position to guide and control his load. The simplicity of operation does away with the necessity for having expensive operators, the average freight handler being successfully taught to operate such a truck, even in congested plants or terminals, in about 48 hours.



A large field for the electric industrial truck is for transporting material within large factories, and to and from shipping rooms.

SO far I have spoken of the industrial truck solely from the angle of the user. It must be remembered that the user is the final judge; that no electric appliance, however desirable to the central station as an item in the load, can be profitably advocated or sold unless it offers a definite and demonstrable economy or efficiency to the ultimate purchaser. This, it is easy to prove as regards the "electric stevedore."

From the central-station standpoint, the desirability of the industrial truck depends upon the following factors:

(a) Its current consumption.

(b) The nature and desirability of the load.

(c) The cost of selling.

(d) The value in advertising and good will.

As to the current consumption, this obviously depends upon the nature of the work performed, the quantity of work, the grades traveled, etc. On a level floor, under normal circumstances, an ordinary truck of this type will consume in the neighborhood of 500 watts per ton mile. The normal day's work for such a truck is twenty to twenty-five miles, so that it may be roughly estimated to be worth 250 kwh. per month, working days, or 3000 kwh. per year.

The charging of the batteries is done at night, so that current is taken during off-peak hours both as to central-station load and the individual factory load. The effect, therefore, is to improve the factory's load factor by whatever extent the trucks consume current. This may not be a great matter, but the central-station industry has learned to calculate in pretty small fractions and does not despise them. Any appliance or apparatus that will smooth the load curve by whatever small degree has a value in excess of its actual kilowatt consumption.

The cost of selling electric industrial trucks should be very low if the matter is undertaken in a serious spirit and with forethought. In the first place, a few hours' study will put any reasonably well-balanced salesman in position to

talk intelligently and convincingly on the subject, and to calculate with reasonable exactness the cost and economy factors involved in any ordinary truck equipment. In the second place, it must be remembered that the prospective buyers of these trucks are already power and light customers of the central-station company, to whom access is easy, and whose confidence in the salesman is already established by presumably satisfactory service already being rendered. If a factory manager is satisfied with the motors you have sold him and with the service you are rendering him to keep those motors turning at minimum cost and maximum efficiency; if he has been made to see the increased capacity of his operatives through the improved industrial illumination you have designed and installed; then he will lend an eager ear to any other electric proposition that promises economy and efficiency. The salesman's work involves no technical difficulties as regards the vehicles; it should involve no selling difficulties as regards winning a favorable audience and establishing confidence. The selling cost, under such conditions, is the lowest to be expected in any new-business campaign. And considering the current consumption and the legitimate merchandising profit involved, it is doubtful whether many other branches of central-station commercial effort would net any greater return per dollar of sales expense.

The final factor, which the central station may never overlook, is that of the customer's good will and the advertising value to be extracted therefrom. Prosperity is the greatest breeder of good will in the world. Show a man the way to profit and you have won the way to his heart. This statement is a bald platitude, self-evident, obvious and undodgeable. We all know it is true of ourselves: it is equally true of anyone whose digestion is not a hopeless wreck. The electric industrial truck, intelligently and conservatively installed to perform labor for which it is fitted and under conditions which enable it to do its work with only the normal amount of abuse, will prove a money-saver for the man who buys it. When one truck will supplant four men it will pay for itself in less than a year. Any machine that will pay for itself in a year and allow a good margin for maintenance is a profit-payer. The man to whom you sell such a machine will be a booster—he can't be anything else without being a liar.

Another large field for the industrial truck's usefulness is about yards and between buildings in large industrial plants

The "electric stevedore" is comparatively a new feature in industrial operations, being only about four years old, as a commercial proposition. But in four years it has been developed and perfected to a point where it is as dependable as an incandescent lamp. Today there are only about a thousand of them in use in this country. This is because the central stations have not heretofore realized the opportunity which the small vehicles offer in the way of profit and satisfaction. If these paragraphs of mine induce even half a hundred central-station commercial men to investigate the proposition seriously, these fifty men will sell as many trucks in the coming year as are now in service altogether.

That will mean a million a year to our industry.

Industrial Lighting as the Mill Man Sees It

Reasons why Central Stations should Develop Industrial Lighting Business for their own Good and that of their Customers

By L. D. Sage

THIS month is the time to improve industrial illumination. Factories are getting ready to start up, business everywhere is improving, optimism (in spite of wartime complications) is far from dead. At the same time, conditions are such that manufacturers must grasp every opportunity for economy and efficiency. Costs must be whittled down even further, though many manufacturers a year ago believed they had reached bedrock in the matter of economy. Production per unit of labor must be speeded up further, though a year ago it was believed that the maximum had been reached.

Better illumination in mills, factories and especially in small shops, is the means to this economy and efficiency. It is up to the lighting companies to prove this fact, to do their part toward supplying their industrial customers with the lighting equipment and illuminating engineering brains which will add to the profits of these customers. For every prosperous industrial establishment means dozens or hundreds of prosperous workmen, and a city of prosperous workers means that the lighting company's sales of residence current and appliances remain at the maximum. The promotion of industrial lighting, therefore, is a selfish policy. The lighting company adds to the prosperity of the manufacturers, but in turn it shares in that prosperity.

Industrial lighting can only be secured on the right basis by a man who understands the factors involved. Factory illumination is not merchandise, it is service. The man who sells it is not a salesman, he is a professional man, an efficiency engineer. He must approach his prospective customer with the idea that he is helping that man to greater prosperity. That is the actual truth.

It is no longer necessary to talk efficiency as an abstract principle to the American mill or factory man. Everywhere in his shop he can point to efficiency concretely applied — in the form of modern machinery and appliances, short-cut office systems, safety devices, sanitary equipment. And he can quote statistics by the yard to show how he has made efficiency count in increased and bettered production, lowered costs, minimized accidents and spoilage, more efficient help.

He knows and commonly applies in his business every weapon of efficiency save the most potent of all — adequate industrial illumination. The lighting equipment ordinarily found, especially in the average small shop, is still of the most obsolete kind. Carbon lamps on drop cords hang where the workmen must continually move them about to get any sort of illumination at all. The lamps are dirty and probably dim with age, and because they are seldom provided with reflectors, the operatives suffer from the glare of the bare filaments. Yet indubitable figures, covering a large number of mills and factories, prove that the change from bad to good lighting will raise the output of a steel mill fully two per cent in one year, and that of a textile mill or shoe factory ten

per cent; that it will enhance the quality of the finished product; greatly reduce the cost of production, process by process; and change the employees from a gang of grumbling shirkers into a healthy, cheerful, efficient crew.

As this article proceeds, it will become very clear how impressively the statistics line up on the dollars-and-cents side. And every fact, every figure, every argument is based, not on the claims of the lamp salesman or the central-station man, but on the experiences of mill and factory owners who have had every opportunity to test conditions both under obsolete lighting equipment, and with the right kind of factory illumination rightly applied. A large number of mills and factories, both large and small, brought their lighting systems up to standard last year; a great many new ones will follow suit this year. Now is the time when every manufacturer should be brought to consider this new arm of efficiency from every possible angle.

What Makes Good Factory Lighting

THE elements of bad factory lighting can be summed up as follows:

(*a*) Glare. The light from bare filaments shining directly into the workman's eyes instead of on his work.

(*b*) No reflectors to shield the employee's eyes; to control and distribute the light; to direct it on the machines and the product passing through them; to keep the moving parts in plain sight of every man.

(*c*) Low efficiency carbon lamps.

(*d*) Lamps badly placed and spaced.

(*e*) Dirty lamps set against an unfavorable background of dingy walls, ceilings and windows that are not kept clean.

The elements of a good lighting system are easily deduced from the foregoing:

(*a*) Daylight conditions after dark, ensuring 24-hour lighting service in an ideal environment for rapid and expert work.

(*b*) Lighting units which fit naturally into the divisions of shop space made by the post-supported mill construction.

(*c*) High efficiency lamps properly equipped.

(*d*) Most of the light concentrated on the machines and work. Enough light generally distributed about the shop to make the movement of the men as safe as under daylight.

In order to ensure a satisfactory lighting system for a mill or factory, several things must be considered: the article manufactured; its color; the size of the parts made; the operations performed on them; the shape of the machines used for the different operations; how nearly they are automatic; how exact must be the measurements of the product; the number of parts per unit of time, and how closely the goods must be watched for flaws. All these things have a great deal to do with the amount and distribution of the light.

Dear Sir:—

Every month you are probably called upon to approve your monthly charge for light.

Do you realize that your light may be costing you more than the cost sheet shows?

Just think of the effect of light on your production, on the quality of the goods you make—on the amount of spoilage. Consider the number of accidents that are caused by poor light and the resulting general inefficiency throughout your plant.

If you will carefully consider these things, you will understand why we urge you to use Westinghouse Mazda Lamps. These lamps will give you the best light at the least possible cost. They are the most efficient units available.

The enclosed booklet shows you why it will pay to investigate your lighting. We will be glad to supplement the facts given with detailed information as to how to get the right kind of light.

Write, call or telephone.

Yours very truly,

Sample letter supplied by manufacturer for mailing to industrial lighting prospects

The best practice is to take different parts of a shop in turn and consider their lighting needs. This is not the work of a "guesser," but of an intelligent illumination engineer. Every well-equipped lamp manufactory maintains one or a staff of these experts whose duty it is to make lighting engineering surveys and estimates. Their service is free.

The Effect of Good Lighting on Production, Costs, Employees.

THERE is plenty of evidence that good factory illumination increases output, improves quality and lowers the cost of production. To take the textile industry as an example: the average mill operates by artificial light about 500 hours each year. Customarily, the amount of work turned out under artificial light is between 12 and 20 per cent less than is produced under daylight. In other words, after-dark work cuts down two per cent of the factory's annual output under poor artificial lighting conditions. Bring the installation up to standard, and you would secure 100 per cent production without adding a copper to the investment charges, overhead expenses, or depreciation.

A recent census report quoted one per cent as the gross spoilage in American manufactures in one year, an item of approximately $150,000,000 net. Fully 75 per cent of this excessive wastage is said to have occurred under artificial light, and experts agree that 25 per cent, or $28,125,000, could have been avoided by good factory lighting.

The facts are that when the operator has to work under glary light or in shadows, he becomes, in effect, half blind. His work slows up, and flaws in the material pass unnoticed through the loom. But when the light is so distributed that the right amount will be secured at the heddles, harnesses and breast beam, the operator works with normal vision, and he or she can quickly eliminate the flaws. This is not merely the argument of the lamp or lighting salesman; it is a fact often admitted by mill and factory men who have tested machines and men in their own shops both under bad and good lighting conditions.

Adequate illumination also lowers the cost of production. It enables a plant to run efficiently on a day and night schedule instead of a day schedule alone. And the fixed costs of operation and maintenance, such as interest on the investment, taxes, depreciation, fixed

Good Light is Good
Accident Insurance
A large percentage of the accidents that occur in industrial plants every year could be prevented by the use of more and better light.
Good light is the cheapest kind of accident insurance.
Westinghouse Mazda Lamps
will not only give you the kind of light that will help prevent accidents but they will give you that light for less cost than the old style Carbon or metallized lamps. Westinghouse Mazdas are the most efficient lighting units available.
If you have ever had a serious accident in your plant, you know that it pays to take every precaution.
Our engineers can help you lay out an efficient lighting system.
"Guaranteed by the Name"
Westinghouse Lamp Company
Distributors at McCandless Mazda Miniature Lamps.

Taking advantage of the "safety-first" propaganda. This ad, printed in numerous industrial trade papers, argues for better lighting as accident insurance

Efficient Lighting a Necessity

IN these skyscrapers, where floor space is valuable and where the value of human efficiency is realized, maximum lighting efficiency is a recognized necessity. Both human efficiency and lighting efficiency are even more important in your factory because they have such a tremendous effect on your output and consequently on profits. The highest efficiency of workmen is impossible in a poorly lighted plant.

You can no longer afford to get along with poor or mediocre lighting especially when the most efficient lighting is also the most economical. To get this maximum lighting efficiency you must use the most efficient lamps.

EDISON MAZDA Lamps give more light and better light for less money than any other type of lamp. The smaller sizes are from three to four times as efficient as carbon filament lamps while the big powerful units are actually 5 to 6 times as efficient as the old style lamps. The largest unit, the 1000 watt lamp, gives nearly 2000 candlepower.

For standard voltages EDISON MAZDA Lamps are supplied in 10, 15, 20, 25, 40, 60, 100, 150, 250, 400, 500, 750 and 1000 watt sizes. The four largest sizes mark the very latest advance in electric lighting efficiency and economy.

No matter what your requirements are there is a size for every purpose.

Every EDISON MAZDA Lamp you buy sums up 35 years' experience in the manufacture of 500,000,000 lamps and the world-wide research of MAZDA Service.

EDISON LAMP WORKS
OF GENERAL ELECTRIC COMPANY
General Sales Office, Harrison, N. J.
Agencies Everywhere
Member Society for Electrical Development Do it Electrically

Taking advantage of the efficiency propaganda. This ad, printed in the "business" magazines, shows the factory executive the efficiency value of good light

charges, and all other overhead expenses, are distributed over practically twice the output. It also enables each man to get the best out of his machine because the light is always in the right relation to the latter. Considering the man and his machine as a productive combination, the efficiency of the combination is increased because the efficiency of the man is increased. This signifies not only larger and better output of the finished material, but a greater return on the man's wages and the cost of the machine. Good illumination also helps to lessen the *pro rata* cost of production by checking time wasted by operatives in moving lamps from one point to another, and in stopping machines to correct faults. Again, by doing away with the conditions which occasion eye strain and ill health the right kind of industrial illumination extends the period of usefulness of experienced men and makes it less necessary to continually break in raw help. Finally, good lighting effects a large saving by greatly reducing the number of "seconds."

Good factory lighting means a better crew of workers. The man who does the best work is the man sound in mind and body. Good light helps to keep his eyes, his head, his nerves right. You can look on good light as a tool which every mill worker ought to have, and which partly determines his value as a producer.

Let an operative see his work easily and clearly, and he will work fast and accurately. He will also leave his bench in better physical shape at night and return to it fresh in the morning. He will be more cheerful and willing, and more likely to stick. On the other hand, there are several cases on record where factory hands have changed over in large numbers from a badly lighted to a well lighted competitive factory.

Better Light For More Efficient Work

Why most factory lighting is bad.

How to properly use light.

How your present installation can be improved without changing it entirely.

This Free Booklet Tells How

It will pay you to spend five minutes reading this booklet and considering these questions—for though you may not realize it—the lighting in your plant is one of the big factors in the quantity and quality of your output.

Factory executives have been already educated by the lamp makers through the distribution of "reason-why" booklets. The central-station salesman will find prospective customers receptive to selling talk

The reduction in accidents attendant on improved factory lighting is a fact which has greatly impressed many mill and factory men. The Manufacturers' Association states that in this country alone 500,000 avoidable accidents have occurred in one year, and it is maintained on excellent authority that 25 per cent of these accidents were caused by poor lighting.

How to Start an Industrial Lighting Campaign

THE above are the general considerations a man must understand who is about to go out after industrial lighting business. The technical requirements of the industrial lighting salesman may vary. If a definite campaign is planned, the manufacturers of lamps and reflectors will cooperate. They will draw plans in their engineering offices or will send experts to work on the ground.

Many of the manufacturers have been running educational advertising campaigns in the industrial journals and stand ready to supply booklets, circular letters and other advertising material for local distribution. One manufacturer, at least, offers a lecture on industrial lighting with a set of lantern slides. Finally, it is understood that the Commercial Section of the National Electric Light Association is about to re-issue in revised form its very excellent booklet on this subject.

With a fair understanding of the efficiency and economy factors involved in industrial lighting, a working knowledge of illuminating engineering, a file of the publications available as campaign documents, and a list of the shops and factories within the territory whose lighting should be improved, any live commercial man is fitted to undertake a campaign.

The time to do it is now.

Cashing-in on Factory Pride

The New Spirit in the Industrial World and how it can be Stimulated by the Central Station

THE modern manufacturer takes as much pride in his factory as he does in his home. The day of the dingy, unsanitary sweat-shop is gone. Instead, we have manufactories in which facilities for health and happiness, for efficiency and loyalty, are considered quite as essential as competent machinery and adequate power.

"Factory pride," as the modern spirit has been termed, is a dividend payer. The betterment and safeguarding of employees is simply an item in the present-day scheme of efficiency. The erection of sturdy, well-lighted factory buildings is simply an item in the establishment of the good-will without which no industry can long expect to make headway.

We have all passed some gloomy old factory bearing in faded letters the name of a famous brand of goods. "Land o' Liberty!" we have exclaimed, "think of Smith's Pills being made in a dump like that!" and straightway both Smith and his product have lost our respect completely. On the other hand, who has passed the diminutive but beautiful little Wheatena factory on the road to Philadelphia, without noting it with approval and with a remark about the goods and the men who make them?

Some remarkable examples of factory pride are to be found in the establishments of Shredded Wheat at Niagara Falls, Roycroft in East Aurora, National Cash Register in Dayton, Loose-Wiles in Long Island City, and Nela Park in Cleveland. Each of these is a "show place" where visitors are made welcome at the expense of considerable time and bother, solely for the advertising effect gained.

Hardly a factory manager but has this inherent pride in his plant, and it can be capitalized and made to pay by the sign salesman who will specialize in the field. Examples are not lacking of large and effective factory signs. Loose-Wiles, the biscuit concern, whose plant is in view of one of the large bridges across East River, New York, offers a notable display of both signs and outlining. "Gold Dust Twins" in Chicago, Johnson & Johnson at New Brunswick, Coldwell Lawn Mowers on the Hudson River, Oliver Chilled Plows at South Bend, General Electric and Westinghouse each in several localities, Underwood at Hartford—these examples occur off-hand. And yet they do not begin to suggest the scope of this great national central-station opportunity. By the simple expedient of 'phoning the handiest sign-man to this office, C. B. Graves, New York sales manager of the Federal Sign System

(Electric), we ascertained that the factory-sign business has already developed far beyond the knowledge of the average man in the industry.

Mr. Graves was able to quote from memory 42 big factory sign deals all over the country in which he personally has had a hand. The sales departments throughout the entire Federal system no doubt could add considerably to these figures and point to additional interesting sign deals in the fire. To run through the list, which Mr. Graves has provided, is to note three things: the number of prominent manufacturers represented; the territorial reach of the business already secured—from Bridgeport, Conn., to Brazil, South America; and the large number of central stations, which as a matter of course, derive considerable current revenue from these large factory installations. Here is the list:

Harvey Hubbell, Inc., Bridgeport. Cost of sign, $2000.

United States Tire Company. Two signs in New York; one in Hartford; one in Chicago; one in Boston; total cost, $16,200.

Rock Island Brewery Company, Rock Island, Ill., cost, $4000.

In Chicago: Benz Engraving Company, $1500; City Fuel Company, $5000.

Mother's Bread, Terre Haute, $2000.

Des Moines Brewery, $3000.

Gray & Davis, Boston, two signs, $2500.

Strathmore Paper Company, Woronoco, Mass., two signs, $3000.

In Detroit: Packard Motor Company, $3000; Elliot Taylor Company, $5000; Hupmobile, $2000; Lozier Motor Car Company, $3000.

Montgomery Ward, Kansas City, $1000.

American Radiator Company, Bayonne, N. J., three signs, $5000.

Colgate Company, Jersey City, two signs, $7000.

Otis Elevator Company, Harrison, N. J., two signs, $3000.

In Brooklyn: Sweeny Manufacturing Company, $2000; Atlantic White Lead Company, $3000; C. Kenyon Company, two signs, $4000; Wm. H. Rich & Sons, $2500.

Sheldon Slates, Granville, N. Y., $500.

In Ilion, N. Y.: Library Bureau, two signs, $3000; Remington Arms & Ammunition Company, $2000.

Yale & Towne Manufacturing Company, New York City, $2000.

In Philadelphia: Disston Saws, $1500; Cunningham Piano Company, $1500.

Monument Mills, Housatonic, Mass., $2000.

Western Electric Company, Newark, $1000.

Ward Motor Vehicle Company, Yonkers, N. Y., $1500.

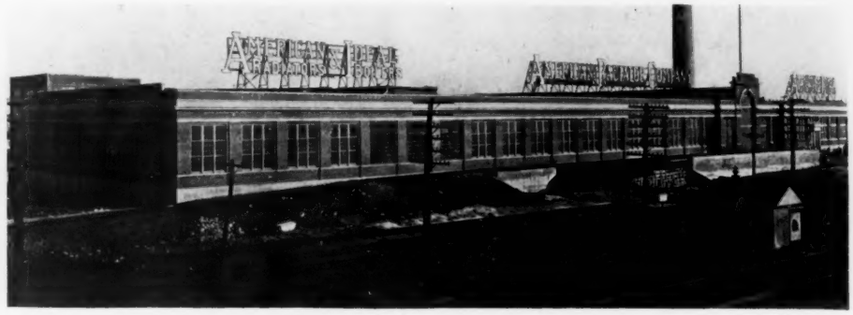
Hodgman Rubber Company, Tuckahoe, N. Y., $2000.

American Printing Company, Fall River, $4000.

Total cost of the 42 signs, over $100,000.

Does it pay the central station and the sign manufacturer to cooperate in developing the factory-sign business—to crystallize factory pride throughout the country in electric letters from 10 to 12 feet high? The foregoing figures out of the memory of one branch sales manager of one sign manufactory alone easily indicate that it does pay. We haven't the available figures, but we know that the Greenwood Advertising Company and other prominent sign manufacturers now devote more of their selling energies than hitherto to the development of factory pride as symbolized by the electric sign. They need only more earnest cooperation on the part of the central stations to develop the factory-sign business on a grand scale.

The manufacturers of electrical goods, themselves, have a splendid opportunity, by the power of example, to crystallize the national factory pride into factory-sign pride. It is only logical that every electrical manufacturer should proclaim his factory pride literally from the roof-top through the medium of the electric sign—just as logical as that he should transport his goods from point to point in electric trucks. After all, blood is thicker than water, and a reasonable amount of electric advertising should be allowed for in his advertising appropriation



This electric display compels the attention of every railroad traveler into Bayonne

In the foregoing list appear the names of two manufacturers of electrical goods, the Western Electric Company and Harvey Hubbell, Inc., of Bridgeport. Of course, there are other manufacturers of electrical supplies, General Electric, Westinghouse, who burn signs from their factory roofs. But there are hundreds of others who do not, and who ought to be quickly whipped into line as an object lesson to neighboring manufacturers who have not yet learned that factory pride is best symbolized in an appealing and distinctive electric sign placed on the factory roof.

The U. S. Tire Company burns signs on all its branches

The reflection from this sign can be seen as far as Germany

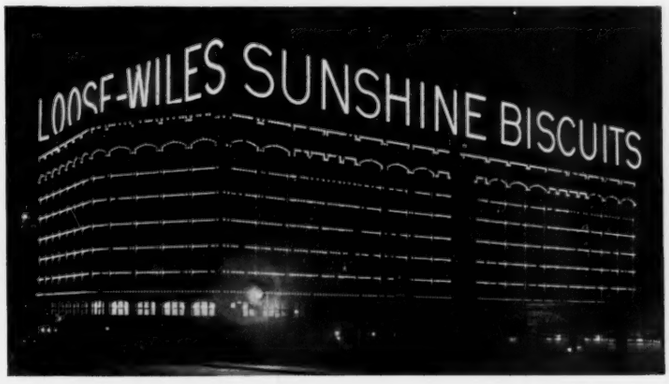
An excellent example of "factory pride." The plant, equipped with awnings and covered with vines, is comfortable to work in, beautiful to look at, and is identified to every passer-by

One example of particularly lavish factory-sign pride in Mr. Graves's list is that of the United States Tire Company. This company now burns an expensive sign on each of its large city branches. By doing so, it points to an opportunity long neglected by national advertisers themselves and the central stations and sign manufacturers. That is the opportunity for the manufactory with a long chain of branches, or the retail establishment with a long chain of stores throughout the country to electrify its trade-mark or trade slogan and burn it on every branch office or store. The wander spirit is particularly strong in America and a large section of the buying public moves continually from city to city. Hence the factory, which disseminates its pride, through signs, over its entire chain of branches, has a distinct advantage over all competitors in hammering home its message to thousands of traveling Americans who see the electrified slogan or trade-mark in a succession of important cities on a single flying trip.

To close the discussion, the electric factory sign means three things to the manufacturer:

1. An assertion of factory pride such as neither the outside traveling public nor the home folks can lose sight of. The traveler sees it as he speeds into the station on the train; the native sees it from a hundred vantage points about the city.

2. Factory pride in restrained, dignified form. Factory pride proclaimed out loud either by word of mouth or in print, often seems puffery, boastfulness, bunk.



Night sunshine used to advertise Sunshine Biscuits

But light is the true symbol both of power and dignity, hence the ideal symbol of factory pride.

3. Many factories are almost inaccessible in their location. But the factory sign brings them down town where no eye can escape them. For example, the Loose-Wiles factory in Long Island City with its signs and building outlining all aglow, seems at night as advantageously located as if it were on Broadway, itself.

Factory pride, intelligently applied, becomes the pride of the public. For instance, while the National Cash Register Company was being tried by the Government in accordance with the Sherman Law, the whole American people rose in arms at the injustice of it. To prosecute this company under any law was a practical impossibility. Why? First, because it had builded too well. Second, because its pride and faith in itself was so great and so skillfully applied, that it soon became the pride and faith of the Dayton people, and eventually the pride and faith of the nation. In the beginning, the Dayton manner of proclaiming its factory pride seemed faddish and absurd to hard-headed conservatives, but now we all see the immense practical value of building their way. And if beautiful buildings and grounds proclaim this factory pride by day, the electric factory sign will proclaim it even more potently by night. It remains for the sign salesman to bring home these facts to every factory owner—to capitalize the new spirit in the industrial world.

Boston Adopts Battery Exchange System

The Edison Electric Illuminating Company of Boston has adopted a battery exchange system somewhat similar to the Hartford plan which was fully described in the March, 1915, issue of *Electrical Merchandise*. In Boston, the battery service will be furnished to all buyers of General Vehicle chasses who use the service at the points designated by the central station. All batteries will be charged and maintained by the central station and furnished to the user at a cost based on mileage with the addition of a nominal fixed charge. The schedule of charges runs as follows:

Fixed cost 1000-lb. wagon, per month, $17. Running costs; 3 cents per mile for first 500 miles each month; 2½ cents per mile over 500 and up to 750 miles; 2¼ cents per mile from 750 to 1000 miles; 2 cents per mile for all miles in excess of 1000.

The corresponding prices for a 2000-lb. wagon are 3½, 3, 2½, and 2¼ cents per mile, fixed cost, $21 per month; for a 4000-lb. wagon, 5, 4½, 4 and 3½ cents per mile, fixed cost, $28 per month; for a 3½-ton truck, 6, 5½, 5 and 4½ cents per mile, fixed cost, $33 per month; for a 5-ton truck, 7, 6½, 6 and 5½ cents per mile, fixed cost, $36 per month.

Contracts, already received considerably in advance of the completion of the plan, indicate that the battery exchange system will greatly stimulate the use of electric industrial trucks in Boston and environs.

E. Burt Fenton, publicity manager, Sandusky (Ohio) Gas and Electric Company: "I congratulate you upon the excellent magazine you are publishing."

Type R-1

Type R-2

Type R-3

Type R-4

The Type S-1 Domestic Range

This type meets the demand for a good, useful, practical range at a moderate price. Its attractive appearance can be seen from the accompanying illustration.

Price $80.00 List

The equipment of the range is

3 8″	Hot Plates	3 heats	250-500-1000 watts
1 18″ x 18″ x 12″	Oven	2 heats	750-1500 watts
1	Broiler	1 heat	1000 watts
	Maximum connected Load		4500 watts

The open sheathed-wire units of the oven and broiler provide quick heating; and the operating economy of the S-1 Range is greater than any range, except our Type R, now on the market. It has the same cast-in sheathed-wire hot plates as the Type R.

Type S-1
Domestic Range

The S-1 Range is not an experiment; it has been thoroughly tried and tested in hard service and has all the well-established G-E quality behind it. One recent order for S-1 Ranges filled seven full-sized freight cars.

The Type S-1 is now ready for general delivery; it is a profitable leader for you. Combined with the higher priced Type R Ranges, it makes a complete line appealing to all classes. We will be glad to supply newspaper cuts, folders, etc. to assist you in the selling.

5662

General Electric Company

General Office: Schenectady, N.Y.

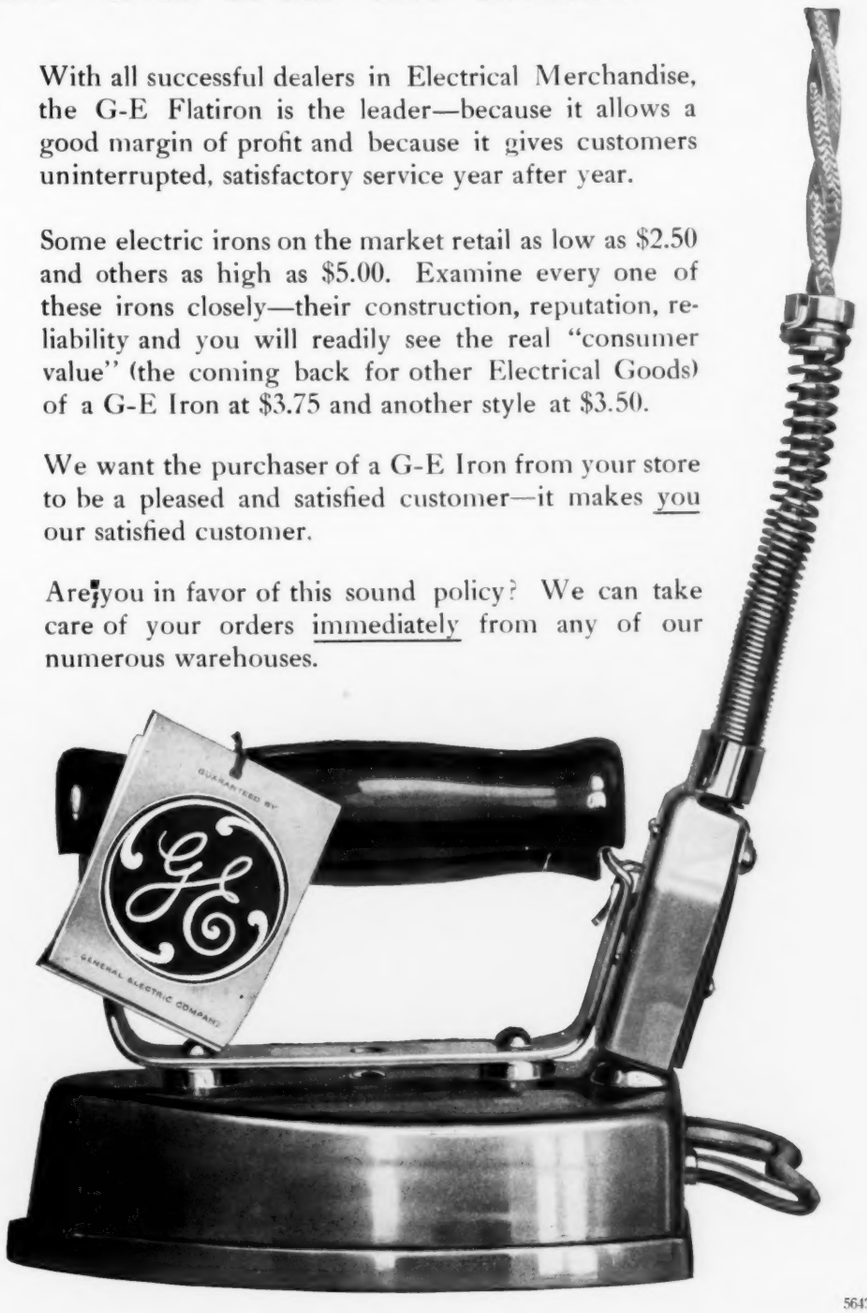
Unqualified Satisfaction makes the G-E Iron the Leader

With all successful dealers in Electrical Merchandise, the G-E Flatiron is the leader—because it allows a good margin of profit and because it gives customers uninterrupted, satisfactory service year after year.

Some electric irons on the market retail as low as $2.50 and others as high as $5.00. Examine every one of these irons closely—their construction, reputation, reliability and you will readily see the real "consumer value" (the coming back for other Electrical Goods) of a G-E Iron at $3.75 and another style at $3.50.

We want the purchaser of a G-E Iron from your store to be a pleased and satisfied customer—it makes you our satisfied customer.

Are you in favor of this sound policy? We can take care of your orders immediately from any of our numerous warehouses.



5643

This trade-mark the guarantee of excellence on Goods Electrical.

ADDRESS NEAREST OFFICE

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Butte, Mont.
Charleston, W. Va.
Charlotte, N. C.
Chattanooga, Tenn.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Columbus, Ohio
Dayton, Ohio
Denver, Colo.
Des Moines, Iowa
Detroit, Mich.
(Office of Agent)
Duluth, Minn.
Elmira, N. Y.
Erie, Pa.
Fort Wayne, Ind.
Hartford, Conn.
Indianapolis, Ind.
Jacksonville, Fla.
Joplin, Mo.
Kansas City, Mo.
Knoxville, Tenn.
Los Angeles, Cal.
Louisville, Ky.
Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Nashville, Tenn.
New Haven, Conn.
New Orleans, La.
New York, N. Y.
Niagara Falls, N. Y.
Omaha, Neb.
Philadelphia, Pa.
Pittsburg, Pa.
Portland, Ore.
Providence, R. I.
Richmond, Va.
Rochester, N. Y.
St. Louis, Mo.
Salt Lake City, Utah
San Francisco, Cal.
Schenectady, N. Y.
Seattle, Wash.
Spokane, Wash.
Springfield, Mass.
Syracuse, N. Y.
Toledo, Ohio
Washington, D. C.
Youngstown, Ohio

For TEXAS, OKLAHOMA and ARIZONA business refer to Southwest General Electric Company (formerly Hobson Electric Co.), Dallas, El Paso, Houston and Oklahoma City.

For CANADIAN business refer to Canadian General Electric Company, Ltd., Toronto, Ont.

General Electric Company

General Office: Schenectady, N. Y.

Commercial Section Executive Committee Meets

THE executive committee of the Commercial Section, National Electric Light Association, met at the headquarters in New York, July 19, for the first time since the San Francisco convention. The following members were present: Chairman J. F. Becker; Douglass Burnett, E. A. Edkins, F. H. Gale, H. N. McConnell, J. C. McQuiston, C. J. Russell, George Weiderman, R. R. Young, C. A. Littlefield, secretary, and Miss Gladys Burkhalter, assistant secretary. R. S. Hale, L. R. Wallis, and M. A. Oberlander, representing E. W. Rockafellow, attended by invitation.

In accordance with the new chairman's request, the past chairman made suggestions for the year's work as follows:

The appointment of a committee to handle the hydro-electric situation in the South.

Standardization of all data books of the industry. The National Commercial Gas Association has voted to call its present handbook the "Salesmen's Catalog," and to issue data on installations, etc., to conform with the N. E. L. A. Commercial Section handbook. It is now suggested that the American Institute of Electrical Engineers should issue its sheets in the same form, and thus complete the cycle of standardization.

Members of the section should be asked to give suggestions regarding additional information which they would like to have covered in the handbook, or ideas for improvement.

In the discussion about the membership committee, it was suggested that the chairman appoint state chairmen from the various states to act in the interest of the section in their locality.

It was learned during the meeting that many applications have already been received for the Section's salesmanship course. It will start October 1st. Mr. Edkins brought out the fact that the power sales bureau had proposed a course for power salesmen, but was assured that this would offer no conflict. Mr. Hale suggested that the title of the Committee on Wiring of Existing Buildings be changed to Committee on Wiring, and that the work next year be directed to securing better methods, not cheaper quality.

W. H. Atkins, Edison Electric Illuminating Company of Boston, suggested by letter that the business side of the industry should be kept in the fore this year. Engineers should confine their efforts to commercial work with the idea of bringing to the support of the commercial side of the industry the brains which have made possible the wonderful engineering successes. Mr. Atkin's sentiments were heartily endorsed, and he was informed that Chairman Becker, and Messrs. Burnett, Edkins and Wallis stand ready as a committee of four to take whatever action may be agreeable to the main executive committee to carry out these plans.

The power sales bureau is collecting data so that inquiries for information along the lines of motor service may receive immediate attention. It was decided that this material should be kept on file at the Commercial Section office and distributed from there. The committee on terminology will be discontinued. The next meeting of the committee will be held in New York October 11th.

How Lebanon Sidetracks Complaints

THE Edison Electric Illuminating Company of Lebanon, Pa., keeps an eye out for every opportunity to cement more closely its relations with the consuming public. Very often it works out an original idea which proves effective: at other times, it uses old ideas with equal effect. For example, the company windows have been turned over to local merchants for display purposes since last February and are booked ahead as far as November. Large "good-will" newspaper announcements are also run on the day before Christmas which call attention to the fact that Christmas Eve is the time of the heaviest strain upon the company's resources for supplying electric current.

Recently the commercial department sent out the letter, reprinted below, which although built along familiar lines, is a good, sincere letter that obviated many "over-read" and "under-read" bill complaints in Lebanon and increased the public good will to an appreciable extent.

"Dear Consumer:

"You check your storekeepers' bills—of course you do, and we would greatly appreciate it if you would also check your electric light bills. It is just as easy, and, if you would do it, you would realize how reasonable the cost of electricity is.

"We are enclosing you herewith a booklet on 'How to Read Your Meter.' You will find on the front and back pages space for each month's reading of your meter which you can set down on the day the same is read by our employee. Doing this, when your bill arrives, which is always two or three weeks after a reading, will enable you to check your bill, and, if any error should appear, you would have the evidence and we would be only too glad to correct any errors that we make, as the policy of this Company is SERVICE and COURTESY at all times.

"We have at your service an expert meter reader, who will gladly call on you at any time you specify and give you full instructions as to how to read your meter. We are going to a great deal of expense endeavoring to get all of our consumers to check their bills as closely as any other bills that they may receive.

"To make this a success we need your co-operation, as we want our service to be absolutely without a flaw.

"Always at your service, I beg to remain,

"Yours very truly,

"Edison Electric Ill. Co.,

"A. L. Scott,

"Sales Manager."

"P. S.—A word from you will be most gratefully appreciated."

Every writer of central-station advertising should paste a copy of this letter, together with copies of all similar ones that he can get hold of, in his scrap-book as a point of departure for public-policy letters of his own. From what we know of Mr. Scott, it is his fixed policy to keep a careful record of every successful idea that other central-station commercial men use to sell goods or to promote public good will. And when the time is ripe, he draws from his store of accumulated ideas, modifies them or uses them as a basis for something entirely novel. He finds that it pays to utilize the resources of the combined brains of the industry.

An Electric Clean-up Brigade

In the November, 1913, issue of *Electrical Merchandise*, was described how an agent of the Hurley Machine Company in a college town enables needy students to earn a little extra money by doing house-to-house electric washing at so much per hour. Some time ago, Professor Alford of Purdue University, who is interested in the students' employment bureau, conceived the idea of buying a portable vacuum cleaner for a similar purpose. The plan was approved by the university authorities, and the college Y. M. C. A. bought from the manufacturer's Indiana office, one of the smaller Western Electric sweepers, specially made to be carried from house to house in two parts.

In order to place the scheme quickly on a working basis, the families of the university faculty were the first to be solicited. A letter was sent them to the effect that they could have their homes electrically swept by a student operator at thirty cents an hour. Of this amount, twenty cents was to go to the student for his services, and the remainder to the college Y. M. C. A. for upkeep of the sweeper. From date of purchase, the cleaner has been kept busy practically all of the time, and has yielded a revenue of $20 per month for the students. At the present rate of demand for the Purdue clean-up brigade, a second machine will shortly have to be added to the first. Before the cleaner was placed in operation, Professor Alford had the department of electrical engineering test it for current consumption. At the prevailing price of current at Lafayette, the average cost per hour for running the machine was found to be but three-fourths of a cent.

Mount Clemons 87% Wired

At the end of 1914, 74 per cent of the houses in Mount Clemens, Mich., a town of 7707 population, were wired for electricity. Of the remaining 26 per cent about one-half were piped for gas, and the remainder rented houses or cottages owned by laborers. Yet during a recent special wiring campaign, the St. Clair division of the Eastern Michigan Edison Company secured about 50 per cent of the outstanding business. Thus the town is now practically at saturation point. The inducements offered during the campaign were a low wiring rate—$1.45 per room, fifty cents extra for switches—free current for three months, and the privilege of paying for wiring in six monthly installments. The central station paid the contractors and carried the customer's account.

Roanoke Heating Appliance Sale

Analysis of Results and the Methods that Got Them

THE Roanoke Railway & Electric Company recently held a 10-day heating-device campaign, in cooperation with the General Electric Company, which resulted in the sale of 520 irons, 72 grills, 15 toasters, and 10 miscellaneous appliances such as percolators and disc stoves. Although G. W. Hogshead, the local contract agent, states that his company broke better than even on results, the sales of the other appliances ran somewhat low in comparison with the high iron sales. The probable reason for the discrepancy, apart from the off-season, was that practically the entire eight central-station solicitors in the field were inexperienced college men. And even though they were assisted by a demonstrator and salesman from the manufacturer, the proportion of inexperienced to experienced salesmen was too great to produce the best results.

The principal inducements of the sale were the special bargain price of $2.98 for a standard grill, iron or toaster, and the free 10-day trial offer. A house-to-house canvass of all customers was made. Each salesman carried with him a supply of both trial order and order blanks. The first was simply a printed request on the central station to furnish specified appliances on 10-days' trial. It entailed no obligations to buy. The order blank was a printed acknowledgment that the appliances, which had been left on trial, were satisfactory and that the customer wished now to buy one or more of the appliances which he had been trying out. Mrs. Bernice MacKenney, a graduate of the Boston School of Domestic Science, gave afternoon and evening demonstrations of electric cooking appliances in the company's offices and free appliances were given away to lucky customers each day.

The campaign advertising consisted of several large newspaper announcements, ranging in size from three columns by 11 inches to a half page; printed invitation cards to Mrs. MacKenney's lectures and demonstrations, which were mailed to every customer; and special productions of the General Electric Company's moving picture, "Every Husband's Opportunity." The local newspapers also played up the sale throughout as a news feature, assigning reporters daily to the central station offices to pick up what human interest copy they could.

The newspaper advertisements were of twofold character. One set was devoted exclusively to the "show" features of the sale such as the cooking demonstrations, the moving picture show, and the announcement that free appliances would be given away. The second set of ads was confined to the strictly merchandising side of the sale. The utility grill, the iron and the toaster were each featured in turn in an individual ad. Signs and banners, announcing the liberal bargain features of the sale, were conspicuously displayed both on the outside and inside of the company offices. The windows and appliance tables and counters were also employed to good advantage. A final analysis of all the campaign advertising plainly shows, that without sacrificing in the least their opportunity to play up the popular show features, its promoters also took full advantage of its more serious opportunity to educate the Roanoke public in the superior economy and convenience of electric household appliances. Thus the advertising was not only a valuable factor in securing immediate business during the sale, but without doubt will react favorably on future every-day business.

These signs outside drew crowds inside

The Roanoke Street Railway & Electric Company has lately been the prime mover in the installation of a new white way along the business thoroughfare of the city. The new street lights were turned on last month with due pomp and circumstance. Crowds thronged the market place. The brilliantly lighted stores were focal points for these crowds, and all the merchants did a brisk business. There was an automobile parade, and a booster speech by the president of the Retail Merchants' Association and the speech of acceptance by the mayor were made in accordance with the usual formula.

Keeping them Coming

Clever Bargain Sale Scheme of Dayton Dealer Keeps Customers Coming for Regular Goods

THE H. H. Starrett Company of Dayton, dealers in electrical merchandise, recently issued a little yellow slip which contained this announcement:

> "Join our Westinghouse Electric Iron Club. 25 cents places a 6-lb. $3.50 Westinghouse Electric Iron in your home and 25 cents a week pays the balance. This iron is guaranteed forever. Join to-day."

Copies of these slips were distributed by the Dayton Power & Light Company with their monthly bills. They were also passed out to customers at the cashier's window and at the table where new contracts were signed. The same announcement was repeated in several newspaper advertisements, and thus an appliance campaign was launched in Dayton, which making due allowance for bad local business conditions, has proved consistently successful from the start.

The plan of the campaign was really subtly conceived and carried out: things were not as they appeared on the surface.

In the first place, like the department store which attracts people to its store by offering some slow-moving lines at or below cost, and then directs its best selling energies to inducing customers to buy other goods at regular prices, so the iron club offer was simply the hook on which to hang general appliance business.

In the second place, the easy-payment inducement contained this joker: the customer must make all payments at the store. The reason given was, that in

view of the low price and special terms, it would not pay the Starrett company to send a collector for the payments. The real underlying reason was to keep the customers coming into the store. As Mr. Starrett, himself, puts it:

"We wanted them to get the habit. The most convincing proof of the success of our little scheme is that they did come in willingly. As a direct result, we sold them a great many other appliances in addition to the irons. The payments, too, have been kept up in a highly satisfactory manner. Only in one or two cases have we had to remind the purchaser that he had fallen behind."

Here was a dull-time campaign, then, based on a definite plan which was subtly conceived and effectively carried out. It resulted in the sale of many irons, and nearly as many other kinds of appliances. It brought many new customers to the store. Although, only of one month's duration, it has kept them coming into the store and buying. Mr. Starrett is so pleased with the outcome of the campaign that he is going to adopt the idea as a permanent part of his merchandising policy.

A Record One-day Sale

St. Louis Company Sells 4273 Irons from Sunrise to Bedtime

THE law of cumulative force in merchandising was well exemplified by the recent one-day iron sale of the Union Electric Light & Power Company, St. Louis. In this single day's drive, 4319 irons were placed on the company's lines, and 4273 of them staid there, only 46 being returned. During the 1912 one-day iron sale, 662 irons were sold; 1876 in 1913, and 2402 in 1914. Hence the figures for the four years reveal the cumulative value of a definite merchandising idea carried over from year to year.

Actually, a sale of this sort lasts only from sunrise to bedtime of one day, yet in effect it is a campaign extending over a considerable period. For the newspaper announcements began to appear ten days beforehand and were continued up to the day of the sale. In addition, four days prior to the sale, a large force of men was turned loose in the territory with yellow flier announcements. Over 45,000 of these fliers were hung on door knobs, tree boxes and other surfaces which offered a chance for conspicuous display. Simultaneously, 37,000 return post cards, containing supplementary advertising matter, were mailed to prospects, while, six days before the sale, the 36 electric trucks of the company carried large muslin signs, and Iron Day displays were featured in the windows of the main offices and four branches.

The first of the newspaper ads contained teaser copy which was just definite enough to excite public curiosity. These ads were soon followed by large displays which played up the offer in true department store style. The offer consisted of a 6-lb. G. E. iron reduced from standard price to $2.85 for one day. All irons were placed on ten days' trial and on the easy payment basis — 85 cents on the first month's bill, and $1.00 on each of the next two. With each iron went free a 15x58 ironing board which was specially made up for the occasion. This premium was advertised as being worth $2.25 when sold at retail. The fliers, post cards, truck signs and window displays were designed to dovetail into the newspaper campaign and to keep the terms of the sale continuously before the public.

Statistical returns from the various points of distribution indicate that the

sales ran even throughout the territory:

Irons sold in the main office	861
Irons sold over the 'phone	611
Irons sold at branch offices	655
Irons sold through post card orders	1732
Irons sold by the county company	460
Total	4319
Returned	46
Net Sales	4273

Everyone of the 4273 irons and boards were delivered and signed for within eight days after the sale.

The 'phone and post card figures indicate that at least 2343 irons were sold directly from the advertising and irrespective of the sales effort. Actually, of course, the advertising played a much larger part in the total sales. The momentum derived from the advertising of the three previous years' sales must also be considered. Looking at these figures from the monetary standpoint, the gross receipts from the one-day sale were $12,178.05, which represent 2350 connected kw., an estimated kwh. consumption per year of 488,800, and estimated annual revenue at 7 cents of $34,216 net.

New Business from an Old Trick

THE bean-guessing contest is one of the oldest of tricks to attract customers' attention, yet it seems to hold perennial fascination for the inhabitants of the small city or town. The New Midland Power & Traction Company of Cambridge, Ohio, recently conducted such a contest in which the person guessing nearest to the number of beans in an incandescent lamp globe was entitled to any one of the following prizes: three 5-lamp cartons of lamps up to the 40-watt size; $5 towards the cost of wiring a house; choice of any $5 appliance; or a $5 rebate on a more expensive appliance. What made this particular contest of interest is the fact that the winner did not live in a house already wired. He selected a heating pad because one of the members of his family was ill, and he had his house immediately wired in order to take advantage of it.

The store where the contest was staged also serves as a street railway waiting room. Each person entering the store received a guessing blank which was likewise a prospect card for central-station filing in disguise. When completely filled out, it was a record of the guesser's home and address, present status of house — whether wired or unwired — and of the appliance in which he was most interested. An extra guess was allowed with each tungsten lamp bought during the contest. Cambridge is a town of but 15,000 population, yet in two weeks over 1,000 guesses were cast. Thus a very valuable prospect list was developed with each prospect's preference with regard to appliances.

All the $5 appliances were placed in plain view next to the ballot box, and demonstrators stood ready to explain and to show them in operation. The practical advantage of this was that when the guesser read on the blank that he must make a choice, he generally asked for a demonstration of every appliance on display before filling in his desire on the blank. In this way a number of flatirons and heating pads were sold.

Every central station operating in a small town could doubtless conduct an occasional bean-guessing contest to excellent advantage. It is simply a case of taking a large tungsten lamp, and removing the base by knocking the tip from the bulb and then heating the base slowly to soften the cement. Then you break out the glass supporting the stem and fill the bulb with kidney and lima beans. Fasten the base back on with shellac, and screw the bean lamp in a socket, suspending it from a drop cord in the display window or over the lamp counter. The mixture of beans makes it impossible for the public to find out, by experimenting in their own homes, the exact number of beans in the bulb. Suitable placards should be placed about the lamp in order to play up the contest, and the importance of a near-by demonstration of the appliances offered as prizes should not be overlooked.

Bigler and his Big Month

Remarkable Record of a Denver Salesman: Its Lessons to Us

By Edward Carver

THERE is a salesman working for the Denver Gas & Electric Company by the name of C. A. Bigler. I don't know Bigler from Adam, but I do know that he recently sold over $1800 worth of gas and electric appliances in one month. He sold them in a city where the appliance business has well-nigh reached the point of saturation. Here is a summary of the sales:

18 Ranges, 2 Ranges exchanged, 32 Water Heaters, 2 Pipe and Fixture contracts, 1 Gas Waffle Iron, 1 Gas Toaster, 1 Hot Plate, 1 Laundry Stove, 1 Gas Perco, 55 Electric Irons, 6 Irons exchanged, 9 Suction Cleaners, 1 Cleaner Attachment, 2 Washing Machines, 1 Wiring & Fixture Contract, 7 Toasters, 2 Heaters, 3 Sewing Machine Motors.

Total Sales Price, $1,809.70

As I say, I don't know the man behind these statistics, but I have his picture in front of me. He certainly has a jaw on him; anybody can see that once he gets a-foul of a prospect, he's a hard man to shake off. The upper part of his face is that of a practical idealist. Here's a man, you say, who looks upon his job, not as a job, but as a stepping-stone in a career.

A second glance at the picture, and I am reminded of what a former central-station salesman, now one of the big commercial men of the industry, once said to me about the other kind of salesman:

"I tell you, Carver, too many salesmen look upon themselves as dispensers of hot air rather than of valuable goods and service. I have heard so many solicitors say half apologetically, half jocosely: 'Well, that was certainly a fine line of bull I handed that gink!'

"Invariably I take a man to task for this fundamental lack of sincerity and purpose. I point out that successful men are not given to joking about their life work. Doctors do not speak of their profession as a medical game or bluff. They leave that sort of thing to the ignorant pretender to whom it is only a game or bluff.

"Neither should the selling of gas or electric appliances be treated as a joke. In so far as I myself have been successful in selling, I attribute my success to my sincere belief in my job, the people I worked for, and the quality of the article I sold, quite as much as to my sales acumen and powers of persuasion."

The big man called it fundamental lack of sincerity. I don't think that it is quite that. The average salesman is just a little overpractical and oversophisticated. He's too prone to look upon every exchange of goods for cash as a dicker of the David Harum variety in which the public is invariably the goat, instead of as a fair transfer of values. He takes for whole truth Barnum's dictum that the American public loves to be humbugged, when at most it is but a half truth.

Provided that he has inherent selling ability, a young applicant for a salesman's berth with a strain of "highbrow" in his makeup, is always welcome in my office. For what is a highbrow if it isn't a man who takes himself and his work more seriously than the mass of people take their's? In handling such a man, the sales manager's only problem is to convince him that he is not better than his job, but that the job is infinitely better than he — *that it is the cornerstone of a career.* Reverse the young man's psychology this way and his highbrow attitude is bound to be a valuable asset for his company. He will take his job just as seriously as Bigler takes his.

C. A. Bigler, who is more than a salesman—he is a merchant

I make no pretense of logic here; I simply jot down random impressions of some sales statistics which have come to my attention. And to make a new point, I see, in the Bigler record, the combination appliance salesman coming into his own.

Of course, Bigler is an exceptional salesman. It admittedly takes more than the average solicitor's brains to map out a territory as this man has done it — to line up his prospects so completely and to keep so good a record of them — to face with so cool an overmind each sales problem as it arises, forgetting natural predilections in favor of gas or electricity, and basing the sales on what is actually needed or will give the most permanent

The Last Word in Electrical Appliances

UNIVERSAL
American-Sheffield Plate

Don't fail to see the new line before ordering your fall stock.

Electric Coffee Urn Set
No. E8166044 6 cups $45.20
Lends added distinction to any table service. Makes delicious coffee before the water boils.

Electric Coffee Urn
No. E8146 6 cups $16.00
Equipped with the famous UNIVERSAL Patented Pumping Device and Spreader Plate.

Electric Chafing Dish
No. E840 $18.00
Artistically correct and highly efficient. Has two heats for fast and slow cooking.

Electric Toaster
No. E843 $7.00
Makes perfect toast right at the table.

Coffee Urns, Percolators, Tea Ball Tea Pots, Samovars, Chafing Dishes, and Tea Kettles are made in this pattern. Efficient Electrical Appliances of artistically correct design.

Every piece of UNIVERSAL American-Sheffield Plate is stamped UNIVERSAL SPNS and is warranted to be heavily silver plated on solid nickel silver

LANDERS, FRARY & CLARK,
New Britain, Conn.

satisfaction to the customer. However, with all the natural ability in the world, the narrowly trained electric specialist could not produce equal results with the combination man. The latter not only has a much broader training and knowledge of the whole appliance field, but at least double the market in which to work.

We do too much worrying about gas competition. Look at Bigler's gas sales for a moment. How much did they affect his electric appliance sales, or how much would they affect them in a twelve-month? The figures indicate that, plug as hard as he might with the one idea to sell what he could where he could, he produced electric business larger in variety and bulkier in volume than he did gas business. And there was no particular clash of interests at any point. He sold gas ranges but gas competition is not yet the chief problem of electric cooking. The problems there are internal, such as reasonable cooking rates, improved heating units, lower initial cost of apparatus.

He sold water heaters which offer no conflict. He sold two pipe and fixture contracts through the natural law of supply and demand, and half offset them by the sale of one electric wiring and fixture contract. He sold a gas waffle iron, but where is the electric waffle iron being marketed to any extent? He sold one gas toaster, one laundry stove, one hot plate and one gas perco, but in residences which were piped for gas, and where he couldn't have sold an electric appliance on a bet. And for the one gas toaster, Bigler sold seven electric toasters, fifty-five irons, nine suction sweepers, two washing machines, two heaters, three sewing-machine motors, and several other electric household devices. His record backed by ample precedent, proves that you can sell gas and electric appliances side by side to the direct gain of the electrical industry. For, the man who knows the appliance business through and through, can sell more electric appliances, in addition to his gas business, than the specialist who knows but one part of his field.

Electric Cooking Thrives in Seattle

During the past year, the Puget Sound Traction, Light & Power Company of Seattle, in cooperation with dealers and contractors, has sold more than 500 electric ranges. The dealers have secured the largest share of this business, and H. J. Gille, the local sales manager, believes that eventually they will handle the range business exclusively, the central station simply referring prospects to them. In Seattle and surrounding territory, the electric-range business has derived unusual impetus from the personal recommendations of pleased customers.

Wm. Gould, commercial manager, Gas & Electric Improvement Company, Boston, Mass., says: "I need *Electrical Merchandise;* the July issue is the best one I have ever read."

The Cincinnati Electric Show

Boosts Central-station Sales One Hundred Per Cent

THE Union Gas & Electric Company of Cincinnati held an Electric Show early in July which attracted over 14,000 people and boosted the week's business 100 per cent above normal. As the after-effect of the show, the day-by-day business shows a good increase.

The following manufacturers helped to make the occasion a success by taking booths and displaying their wares in the Electric Shop: Westinghouse Electric & Manufacturing Company, General Electric Company, Standard Electric Stove Company, Landers, Frary & Clark, Hamilton-Beach Manufacturing Company, Bissell Motor Company, Eureka Vacuum Cleaner Company, Clements

The Cincinnati Electric Shop as it appeared during the recent electric show

Manufacturing Company, Brokaw-Eden Manufacturing Company, Hot Point Electric Heating Company, Estate Stove Company.

The main floor of the shop was given over to decorated booths. On the second floor, which was decorated with American flags, palms and ferns, a tea room and portable-lamp display were featured. Daily demonstrations of the electric range and fireless cooker were given in the electric kitchen on the third floor, and demonstrations of the washing machine in the electric laundry.

During the show, R. E. Flower, manager of the Electric Shop, and his assistant, Miss Virginia Cox, entertained the representatives of the manufacturers at an electric dinner in the dining room of the shop. The entire menu, even to the ice cream, was electrically prepared.

Electric irons and percolators were given away to visitors who received lucky coupons, souvenirs were given to the women and "Safe and Sane" Fourth of July firecrackers to the children. In a nutshell, the Cincinnati Electric Show was conducted in accordance with standard practice, nothing being left undone which would contribute to a pleased public, liberal on-the-spot sales, and a good working prospect list.

The aim of the Cincinnati Electric Show was not to bolster up a tottering business, but to stimulate, during the lag end of the season, an already exceedingly healthy trade. During the month of April the regular Electric Shop sales increased 49 per cent over those of the corresponding month in 1914; in May the sales increased 92 per cent over those of May, 1914, while in June the comparative increase was 24 per cent. These substantial gains are attributed to systematic methods of handling the outside salesmen and to a scheme of monthly special sales which are advertised by means of matter enclosed with the monthly bills. For convenience in billing, the Cincinnati territory is divided into six districts. The bills, with the special sale literature enclosed, are mailed to the various districts at intervals of five days, the ads specifying that a company representative will call within five days to explain the special proposition. The men are then turned loose in each district, which is thoroughly canvassed in five days. In this way, the six districts are covered within 30 days, with the result that each customer receives a special monthly call from some company representative. The salesmen work on the basis of a small salary plus commissions, and put plenty of "pep" and enthusiasm into their work. Mr. Flower states that live window displays have been an important contributor to the success of the Electric Shop. He has traced many sales directly to this source.

Bargain Sales for Employees

By offering its employees slightly shopworn or marred appliances at real bargain figures, the Commonwealth Edison Company of Chicago has strengthened their feeling of good will and placed on its lines many appliances which otherwise would not be in service. Aside from minor scratches or dents all these bargain appliances are in first-class condition; in fact, they are sold under the same guarantee as new goods. The most recent bargain, which the company offered, was an electric washing machine on the easy-payment plan, and at a saving of $35 per machine. A machine would be delivered to any address, but the purchase order had to be signed by an employee.

ELECTRICAL ADVERTISING

Signs Display Lighting Window Lighting

Signs that Fail

THERE is no profit in blinding oneself to electric sign failures. There are plenty of successful signs — but also there are too many failures. The only way to improve the average is to study both kinds; find out the reasons for failure as well as the elements of success.

The most gigantic failure among electric signs was the chariot race sign on Broadway, now happily a memory. It was a most wonderful sign — as a sign. But as electric advertising it was a monumental fizzle. This chariot race sign, you may recall, depicted the scene from Ben Hur in which the two leading chariots race almost abreast around the Coliseum track. The action was admirably pictured. It was a marvel of ingenuity. Each night thousands stood and watched the spectacle. After flying chariots had shown for a few moments, a talking sign made various advertising announcements. People said, "This is wonderful advertising," — but *nobody remembered what was advertised*. One man, who saw the sign probably ten times, thought it advertised Ben Hur cigars. Another man, with whom the writer stood for twenty minutes watching the sign when it was first erected, could recall the names of only two of the ten or more products advertised.

What was the reason for this failure? Simply that the spectacular feature did not "tie up" to the advertising message. There was no connection between the chariot race and the underwear and alarm clocks and domestic champagne which were announced — between heats, as it were.

That is the failure, it seems, of most of the unsuccessful electric signs. We see beautiful fountains employed as the spectacular feature of clothing store signs; baseball players in action are expected to give point to an ad of Mail Pouch tobacco; a bursting sky-rocket ineptly calls attention to an automobile tire; and a wonderfully intricate representation of a pot of growing flowers serves as the stop-look-listen on a shoe ad. As spectacles, each of these examples is remarkable: as advertising they are in a class with a clown on Main Street with a placard on his back. They attract attention, but the lasting impression is not of the goods advertised but of the spectacle itself.

Contrast with these failures some of the notable successes. White Rock water was advertised by a flowing fountain that literally dominated the sign district of New York for years. Corticelli employed its trade-mark of a kitten becoming entangled in a spool of sewing silk. Heatherbloom petticoats (in the days when such things were worn) were depicted on a girl in a rainstorm with skirts lifted just far enough. Cook's Imperial was represented by a bubbling champaign glass, and Moerlein's by a flowing bottle. In each of these signs the spectacular feature was an integral factor in the advertisement, visualizing the product or emphasizing its outstanding characteristic.

There is no reason why the principle of eternal fitness should not be applied to a small merchant's sign as well as to one which advertises beer or petticoats. When once this underlying principle is understood, it is quite as readily applied to a small sign as to a large one.

The trouble here, as in most advertising, is that the advertiser demands "something different." This demand should be controlled. A "catchy" sign is not necessarily a good sign, for no sign can be called good which is not a profitable investment, and no sign is a profitable investment which attracts attention to itself rather than to the product or the store it is designed to advertise.

Compulsory Sign Lighting

Baltimore's Mayor's Ban on Dead Signs Suggests a Central-station Opportunity often Neglected

IT is one thing to sell electric signs: it is quite another to keep them burning in communities where careless, indifferent or unprogressive merchants consider the value of electric advertising to be incommensurate with the little work and trouble needed to clean and look after the sign lamps or a dollar or two saved monthly on the current bills.

Mayor Preston of Baltimore recently noticed that many electric signs in the business section of his city were being turned off early in the evening. With a keen appreciation that signs are designed for night time utility rather than daytime ornament, he took steps to correct the weakness. He brought the matter before the Board of Estimates with the result that the Board has ordered all owners of electric signs on the public highways to keep them burning from the time the street lamps are turned on until 11 p. m. Any owner who ignores the order will have his license revoked. Mayor Preston's justification of this radical step is that merchants, who burn electric signs, enjoy special privileges, for which the public should be compensated by well-lighted streets and signs while the outdoor night life is at its height.

It may be that the order to keep all signs burning will do some slight harm to the central station by causing a small percentage of merchants to remove their signs rather than keep them burning every night on a long-hour basis. But whether it does much good and little harm, or vice versa, this much is clear: Such matters should not be left to city officials, but are properly a part of the service every central station should render its sign customers and itself.

The Rochester Railway & Light Company for one, has adopted a sign follow-up system which automatically makes it difficult for a merchant to erect a sign and then let it lie dead night after night. Every electric sign in Rochester is inspected once a week and a report made as to its condition. If the sign is not being used regularly, or if it is marred by dirty or burned out lamps, the facts appear in the weekly report, and a systematic effort made by the central station sign department to apply the proper remedy. In such cases, a postal card, describing the condition of the sign, is sent to each owner, the notice closing with a courteous and tactful proffer of central-station assistance in the matter. The best commentary on this plan is that the Rochester central station has received many letters of appreciation from electric-sign customers, and the number of dead signs is kept down to minimum. By maintaining a sharp outlook on the condition of all signs, the Rochester company often is in a position to change motionless displays over to modern ones with valuable flashing effects.

The smallest central station, with the most rudimentary sales department, could render this valuable service just as well as Rochester or any other central station which operates on a large scale, for it requires neither the organization of a special sign department nor the addition of new help. Any intelligent man in the sales department, or any clerk or hustling office boy for that matter could easily report all delinquencies in each week, and one brief, courteous letter or a personal call would do the rest. And it is work that should be done by all central stations, since apart from current revenue considerations, every dead sign is looked upon as an eyesore. On the other hand, in any city where the central station sees to it that the signs are well maintained and kept burning, the hostile propaganda of civic societies simmers away to futile and almost inarticulate grumblings. Sign maintenance, therefore, is of equal importance with sign selling.

Welcoming the Elks Electrically

Gradually the advertising men of America are realizing the practical value of electrical advertising. H. S. Carroll, ad-manager of the Broadway Department Store of Los Angeles, is among this growing number. During the Elks' convention, held in that city July 11-17, Mr. Carroll erected upon his store one of the most brilliant displays recently seen in the west.

A permanent outlining installation consisting of approximately 4000 lamps was placed upon the store in such manner that it could be adapted to any special event that might occur. This consisted of outlining about the frames of the windows on the second and the top floors; "strip" lighting across the top of the first, second, seventh floors and the cornice; half-hidden clusters within the supports of the cornice, and vertical strips following the main architectural lines of the building from the second to the eighth floors. Ordinarily the strip and cornice lighting is all that is used, but upon special occasions the entire equipment is called into service.

During the Elks' convention this year, the display was enhanced by a clock 15 feet in diameter and a sign reading "Welcome, B. P. O. E." in letters eight feet high. These were done in the Elks' colors and in California gold.

The Broadway Department Store installation is to be credited to the Greenwood Advertising Company, which has a considerable number of similar displays to its credit. The Greenwood idea is to design complete electrical advertising displays, and to neglect no feature of spectacular value. The installation pictured is a happy example of what well-balanced use of outlining and signs will accomplish.

The Broadway Store, Los Angeles, in gala dress

Another Electric City

Lowell, Mass., though one of the truly progressive manufacturing cities of New England, has been somewhat backward in the matter of outdoor lighting. Recently, the right remedy for this weakness was applied when a "White Way," consisting of 234 ornamental luminous-arc lamps of the 6.6-amp. size, was installed in the downtown district. The Lowell Electric Light Corporation installed the new lighting system and furnished the equipment. The city will pay for light.

Electric Signs Replace Akron Billboards

We have not always realized it, but it is obviously true that the man already sold on outdoor advertising — the user of billboards — should logically be the man most amenable to the arguments in favor of the electric sign. A little clear thinking and planning on this score recently enabled the Northern Ohio Traction & Light Company of Akron to transmute many small painted billboards into appreciable electric sign revenue.

A circular letter was sent to the owners of the billboards to the effect that they might just as well give their clerks twelve hours' pay for six hours' work as to maintain signs which quit work as soon as it is dark. The first effect of the letter was to induce many merchants to install lamps on the boards already in place—and of course from the central-station standpoint, this was some gain. However, a sufficient number of the merchants bought distinctive new signs made by high-class manufacturers, to show their more economical brethren that, in comparison, their makeshift arrangements were shoddy goods. As a result, a number of the old signs came down and new electric signs of approved design and customer influence took their place.

Successful New Sign Application

One criticism of the electric sign has been that, compared with other advertising mediums, it is limited in its range of applications. The plain fact is that this medium is as elastic in its scope as any other. Note, for instance, this novel and interesting application of electric advertising in Louisville. Of late, in this city, more trade has been going to the Fourth Street merchants than the Market Street merchants have relished. Whereupon the potency of the electric sign has just been brought into play by the Market Street Association of Retail Merchants to even things up. On Fourth Street, between Walnut and Chestnut Streets, the Federal Sign System (Electric) maintains a large sign. The Market Street crowd rented this, and then came out with the following message to the Fourth Street shoppers in big electric letters: "It pays to buy on Market Street." This message, burning right in the camp of the enemy, is all the more effective as a trade inducer because the same motto has been adopted by every merchant on Market Street for conspicuous display in his own advertising. So the Louisville shoppers can't very well miss it wherever they go to buy their merchandise.

Kansas Theater Sign

The Willis Wood Theater of Kansas City was recently remodeled and adapted for motion pictures. One of the most effective features of the remodeling is an immense electric sign which flashes a message of greeting from four different directions to the crowds that approach it by night. Each letter in the name, "Willis Wood," is five feet high and two feet six inches wide, and there are 420 ten-watt lamps in the sign.

To sell a man what he knows he wants is not salesmanship, but order-taking. Salesmanship consists in telling a man what he wants and then proving or demonstrating that you are right.

Signboards as Advertising

Signboards or "road markers" have been erected by the Consolidated Gas, Electric Light & Power Company on all the auto routes leading into the city from Philadelphia, York, Washington, Annapolis, Frederick, Harpers Ferry, Hagerstown, Emmitburg, Westminster and Gettysburg. The signs carry the names of the various cities between which they are erected, thus: "Philadelphia to Baltimore, the Electric City." There are 541 markers altogether, and the service has been heartily approved by state and municipal officials who see in this another evidence of the Consolidated Company's liberal policy.

A. D. Dudley, Commercial Agent, Syracuse Lighting Co., Syracuse, N. Y.: "We receive valuable suggestions not only from the different articles which *Electrical Merchandise* publishes, but from advertising matter also."

The Small Consumer—A Problem

By A. D. Dudley
Commercial Agent, Syracuse Lighting Co.

Note: The author's original paper treated the subject from both the gas and electric viewpoints. This abstract confines the discussion to the small consumer of electricity.

The small consumer problem confronts all electric companies and deserves more serious consideration than it has been given in many locations.

The small consumer can be divided into two classes:

1. The consumer who is a small user of electricity and by nature of his existence offers little, if any, possibility of development.

2. The consumer whose monthly bill is small because he has never been shown how or through what medium more electricity could be used to his own advantage.

The most striking example of the first class or the consumer offering little, if any, possibility of development is found in buildings having small offices. Even though electricity is used as much as is needed and in a diversity of ways, the consumption will always of necessity be small and in many cases would be unprofitable without the minimum bill charge which most electric companies are allowed.

As a result of our own anaylsis we found that, in addition to the unprofitable consumers previously named, there were many more consumers who were using electricity in a limited way only; and our total list of small consumers greatly exceeded our expectations. We found that 1500 electric consumers were using less than the minimum of $1.00 per month.

The field offers ample opportunity to increase the yearly revenue and accomplish the desired end of making the small consumer more profitable. Efforts should be made in this direction as no additional investment is required in the way of line extensions, not even a service meter is needed.

Inspection and maintenance, to a limited extent, will do much to increase the consumption on appliances now in use. A consumer may be a small user because many of his sockets are empty, and the electric iron may have been laid on the shelf for six months because of a burned-out element or a broken plug. Until our sign flashers were placed under a regular maintenance system for which the consumer gladly pays, signs were frequently out of commission and the consumer constantly irritated. Bringing these matters to the consumer's attention and aiding him to have them remedied will necessarily increase his consumption. In a certain instance an extensive inspection campaign was carried on in a large city and it yielded a material increase in revenue.

Demonstration work is closely allied to inspection work and may well be covered at one and the same time. This work, covered more advantageously by women, extends the use of installed appliances. The uses of an electric grill are many. With the different fittings of a vacuum cleaner, a variety of work can be done. At the time an appliance is sold, it may be explained fully but a demonstration in the home after the owner has used it very often assures a more continuous use.

More important than maintenance and demonstration is the sale of new appliances. This is the surest way of developing the small consumer. An analysis of this phase of the subject should bring out plans and methods which have been tried and proven effective in the development of the small consumer. The important considerations are as follows:

Are you selling the right appliances and offering wide enough variety? Is your selling plan liberal enough to reach the small consumer? Are your prices right? Have you the right kind of a sales force and are you paying the salesmen enough to warrant your expecting a more rapid development than you are getting? These questions are asked to present different views and ideas and to learn how the "other fellow" has been successful in making the small consumer a large one.

Whatever the sales plan adopted, it is vital to know where one stands before he start lest much time and money be wasted. It is not only necessary to know what a small consumer has, it is of greater importance to know what he has not. No industry has a better opportunity to keep in close touch with its consumers. None come in personal contact with them oftener. Granting that to a certain extent the small consumer is unavoidable in our business as well as in every other line, nevertheless we all have more than we should because we allow that condition to exist. The solution may be a matter of maintenance or demonstration; the adoption of an intensive sales plan; the introduction of a new appliance or perhaps only more courteous treatment. In any event, there is no reason why a policy of securing, developing and holding cannot be adopted and followed that will reduce to a minimum the number of small consumers in the territories in which we operate.

When the Gas Gave Out

When the gas supply in Little Rock was completely cut off for three weeks, it offered to the Little Rock Railway and Electric Company an unusual opportunity which it was not slow to grasp. It made a systematic canvass of all homes in Little Rock which had been depending on gas for domestic fuel purposes, the idea being to substitute electric heating appliances for the temporarily nonproductive gas ranges. Sales totals during this special drive ran high. For example, 150 El Grillstovos were ordered by telegraph and arrived one night on the 8 o'clock express. Three automobiles met the train, took aboard the stoves and delivered them with such speed that every one of the 150 were in the hands of the purchaser by 11 o'clock the same night. In several instances the customer was awakened for his own benefit, since the proviso of each sale was that the buyer should have his stove in time to cook the next morning's breakfast. In addition to the 150 stoves, 157 irons and 437 other heating appliances were sold. When the gas supply got back on the job, it faced stiff electric competition in many homes where formerly it was exclusively used for cooking and ironing.

L. S. Small, manager, Texas Power & Light Company, says: "Must have your magazine, *Electrical Merchandise.*"

"American Beauty"
Electric Iron
The Best
By Ironing-Board
Test

GUARANTEED FOR
ALL TIME

American Electrical Heater Company
1335 WOODWARD AVE.
DETROIT MICHIGAN, U.S.A.
OLDEST AND LARGEST MAKERS

AMERICAN
ELECTRIC
HEAT

BUILDING BUSINESS

For The Central Station

Every dollar we have spent to promote the sale of Frantz Premier Cleaners, (and we have spent several hundred thousand) has been spent to convince the public that "doing it electrically" with your central-station service means economy and labor-saving.

By our advertising we have made electric sweeping the everyday method of housecleaning in your city.

By offering a popular priced machine we have greatly enlarged your market.

By making and selling only the best in electric cleaners, we have given to the central-station industry over 150,000 satisfied customers — and you know that the surest and most permanent source of revenue for the central station is that which is based on a good big consumption of current in the **home.**

During the coming season we plan to greatly enlarge the scope and efficiency of our advertising and sales promotion work.

We merit your cooperation — not for what we **have** done, but because it will pay you to participate in what we are **now** doing to enlarge and develop your market for electric household appliances.

We want an opportunity to put before you the new 1915-16 Frantz Premier proposition because we know when you have investigated it from every angle that you will use it as the foundation of your household specialty department.

THE FRANTZ PREMIER CO., Cleveland, Ohio

An Appeal for Courtesy

The Mahoning & Shenango Railway & Light Company of Youngstown recently attached to the pay checks of its men a printed slip which read as follows:

"Every employee is the personal representative of the Company in his dealings with the public. The patrons of the street cars and the lighting companies are entitled to courteous treatment and it is only by the constant effort of every employee that courtesy to passengers and customers can be assured. Courtesy costs nothing, but wins friends. It is the only thing that gains the hearts of rich and poor alike. It merely means to be polite, to be considerate, to check the impulse of anger. Courtesy makes for efficiency, success and promotion for YOU and aids the company in its chief aim — to SERVE THE PUBLIC WELL."

In one corner of the slip was added these words:

"This sentiment is a check against trials and troubles and is indorsed by men who have forged to the front."

The employees for the most part, have responded to this appeal in the right spirit, and many customers have commented favorably on the company's action.

Prosperity Week Plans

The Society for Electrical Development has issued a 20-page booklet outlining its plans for electrical prosperity week. Copies of this booklet will be sent without charge to anyone interested. Among the items which will be supplied by the Society to promote this event are listed the following:

A folder addressed to the public explaining the purpose of the celebration;

An 8-sheet poster lithographed in six colors;

Window lithographs similar to the poster, and window cards;

Poster stamps for use on envelopes and letters;

Street car cards;

Electrotypes and advertising copy for local use by members.

The above material for advertising the event will be supplied free to members of the Society, and to non-members at cost price.

A full-page advertisement of the week will be printed in the *Saturday Evening Post* and one in *Collier's Weekly*. Display advertising also will be run in some thirteen electrical trade and engineering papers.

Assistance will be given to those who plan local celebrations through the issuance of a series of "how to" booklets which give instructions regarding the conducting of slogan sign campaigns, demonstrations, electrical parades, etc.; also the Society's display service bureau will send out suggestions for special window displays suitable to that week.

The motion picture shows, as a means of publicity, have not been forgotten, and

a number of films will be employed. The newspapers, also, are to be used for all the free publicity they will grant.

The carefully thought-out plans of the Society should receive hearty endorsement.

PERSONALITIES

Sterling Succeeds Huntington

R. H. Sterling has succeeded J. T. Huntington as manager and contract agent of the Santa Barbara Gas & Electric Company.

Honors For Herr

The honorary degree of Master of Arts was conferred on E. M. Herr, president of the Westinghouse Electric & Manufacturing Company, by Yale University at its 215th commencement.

C. S. Man Widens Influence

E. F. Stone, superintendent of light and power, Arkansas Valley Railway Light & Power Company, Pueblo, has been elected a vice-president and director of the Pueblo Commerce Club.

Putnam Moves Up

E. F. Putnam, formerly commercial agent of the United Electric Light & Water Company, South Norwalk, Conn., has been appointed assistant superintendent of the Naugatuck district of the same company and of the Seymour Electric Light Company.

Dr. McAllister Quits World

The *Electrical World* has lost another good man through the resignation of its editor, Dr. A. S. McAllister. F. M. Foiker, formerly of *Factory* and *System* magazine, will succeed him.

Dr. McAllister was associate editor of the *Electrical World* from 1905 to 1912, when he was appointed editor. He has an enviable reputation in engineering circles as an inventor, writer on technical subjects and through his activities in engineering and technical societies. At present he is president of the Illuminating Engineering Society, while his memberships embrace practically every association of importance in the technical field.

No announcement of Dr. McAllister's future plans has been made.

Seven Men who have Grown

The following turnovers in central-station commercial departments have recently taken place: F. E. Crawford succeeds L. H. Archard as local manager, the Nebraska Gas & Electric Company at Wymore; R. F. Sikes succeeds M. P. Ruthenberg as local manager, the Texas Power & Light Company at Ennis; J. K. Tuthill succeeds E. A. Moschel as local manager, the Bloomington and Normal Railway & Light Company, at Chenoa, Ill.; G. McClellan succeeds C. E. McNeil as local manager, the Pacific Power & Light Company, at White Salmon, Wash.; J. Emory Mathis succeeds W. M. Case as manager and contract agent, Public Utilities Company of Americus, Ga.; F. N. Wilkenson succeeds C. A. Martin as local manager, the Texas Power & Light Company at Palestine; W. E. Gooch succeeds T. C. Cook as local manager, the Texas Power & Light Company at Cleburne.

Electrical Man Wins Praise

Edward N. Hurley, who organized and made successful the Hurley Machine Company, manufacturers of electric home laundry machinery, is winning much praise by his activities on the federal trade commission to which he was appointed by President Wilson.

A plan for aiding the smaller manufacturers and merchants to win greater prosperity by making available to them the services of expert accountants, by the establishment of uniform accounting and cost-keeping systems, and by aiding in the obtaining of credits, has recently been suggested to the commission by Mr. Hurley and has met with wide commendation. Chicago newspapers have given much space to praising this plan, quoting such men as Charles Piez, president of the Link Belt Company, Albert H. Loeb, vice-president of Sears, Roebuck & Company, and John G. Shedd, head of Marshall Field & Company, as being in hearty approval.

"Experts in legislation who have studied Mr. Hurley's plan, say it practically means a reversal of the government's policy of recent years," says one report. "The tendency has been to attack the big-business interests while neglecting the many thousands of less pretentious business enterprises which make little headway in the race for success because of the managers' lack of knowledge of true business methods."

Electrical men take great satisfaction in the prominence and soundness of Mr. Hurley's work on the commission.

WASHINGTON, D. C.

NEW YORK

SAN FRANCISCO

LOS ANGELES

DETROIT

If They Said It To You?

IF **Geo. Stevens,** Superintendent of the Motor Vehicle Department of the Adams Express Co., came to you and said "22 trucks at Indianapolis equipped with Edison Batteries have averaged 660 miles per month for **5 years.** The cost of operating (including **all** battery repairs, new solution, watering, inspection, labor, material **and current**) averaged 2 1-2 cents per mile for the 880,000 miles."

IF **Thos. Breman,** Chief Engineer, R. H. Macy & Co., came to you and said "The eighteen A6 Edison Batteries which we put in service have given from four to four years and six months continuous service in every case. This means every working day at an average mileage of thirty-five miles per day."

IF **Chas. S. Morris,** President Metropolitan Fire Proof Storage Warehouse Co. came to you and said "We are highly pleased with the operation of the Edison Battery and the amount of mileage has exceeded in many instances that which was promised to us."

WHAT WOULD YOU DO?

WOULD you not investigate the Electric Truck and the Edison Battery?

WOULD you not be impressed by the fact that more than one-third of all Electric Trucks are Edison Equipped?

WOULD you not ponder what USERS say? "Longest life." "Costs least to maintain." "Most economical and satisfactory equipment." "Reliable always."

THE USERS KNOW

Edison Storage Battery Company

Main Office and Factory, Orange, N. J.

Distributors in New York, Boston, Chicago, Detroit, Washington, Seattle, San Francisco, Los Angeles, Portland, Ore.

CHICAGO

WINNIPEG

NEW YORK

NEW YORK

NEWARK

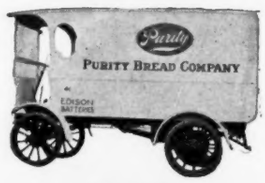
CHICAGO

LONG ISLAND CITY

BOSTON

BOSTON

NEW YORK

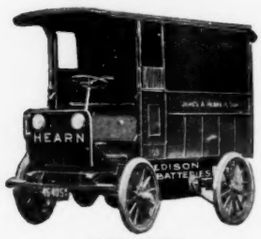


ST. PAUL

CHICAGO

FORT WAYNE

SEATTLE



NEW YORK

ELECTRICAL MERCHANDISE AND SELLING ELECTRICITY

Volume XIV AUGUST, 1915 Number 8

PUBLISHED MONTHLY BY THE RAE COMPANY
FRANK B. RAE, Jr., President and Treasurer
JOHN J. CORELL, Secretary
Publication Office: American Building, Brattleboro, Vt.

EDITORIAL AND ADVERTISING DEPARTMENTS
17 Madison Avenue, New York City
Telephone: 7629 Madison Square

Entered as second-class matter, February 28, 1908, at the Postoffice at Brattleboro, Vermont, under Act of Congress of March 3, 1879.

CONFIDENT MEN VS. CONFIDENCE MEN

Those who undertake to instruct salesmen are very emphatic in pointing out the necessity of confidence as a sales factor. "Be confident," they urge, over and over. "Faint heart never won fair order. Put on a bold front. Shine your shoes, slick your hair, throw out your chest. Believe in yourself. Be confident."

This is very bad advice.

Confidence is of two sorts—actual and fake. Actual confidence is based upon knowledge. Fake confidence is closely akin to dutch courage—a species of intoxication, of mental exhileration, induced by the hypnotic effect of words and the salesmanager's personality.

The truly confident man is confident because he knows what he is talking about. He cannot speak confidently on a subject of which he is ignorant. As soon as he tries to simulate confidence he becomes a confidence man—one who by plausibility, sophistry, evasion, will power and empty words is able to make another person believe what he himself does not believe.

Managers who fill salesmen full of fake confidence—confidence in their ability to wheedle or brow-beat an order away from the prospective customer rather than confidence in the service their goods will render the customer—are doing harm both to their companies and to their men.

PUBLICITY THAT HURTS

In a recent issue of *Collier's* is an interesting account of how a man in the backwoods built a little water-power generating plant and equipped his home electrically. The illustrations show him or his family using the sewing-machine motor, egg boiler, incubator and soldering iron, while many other appliances are mentioned and their uses described.

But here is the rub: The writer of the article, with either a blind prejudice against public-service companies or entire ignorance of the cost of central-station service, employs the following phrases:—

"... making his own power ... instead of paying heavy toll to an electric company."

"... do not have to be as economical as they would be if they had to reckon with a public-service corporation's meter."

The gratuitous references to "heavy tolls" and the implications as to the public-service company's meter are characteristic of a great deal of harmful publicity that still finds its way into print. It is disappointing, however, to find *Collier's*, which is already scheduled as one of the popular magazines to be favored with Society for Electrical Development advertising, to be either carelessly or deliberately "taking a crack at" the Society's chief support.

THE FOURFOLD OPPORTUNITY

To one class of central stations, the term "industrial load," means simply the installation of motors, while a second class more broadly interprets it as a fourfold opportunity to sell power, light, heat and transportation. The second class is not large as yet, but it will be when power engineers, as a class, realize more fully the possibilities of complete central-station power service.

The modern power engineer does not sell merely motors, but motor service. He does away with superfluous line-shafting and increases machine efficiency. Later he persuades the plant owner to install more scientific illumination and thereby increases man efficiency. If, now, he could go a step further and persuade the mill man to electrify his transportation, the latter's confidence in central-station service would be further strengthened and the valleys in the load curve filled to an appreciable extent. Finally, if the power engineer was able to add an electric oven or even a glue cooker to the factory equipment, the mutual interest of both customer and central station in such a well-balanced installation would be even more evident.

A dozen valid reasons have been offered why industrial business, considered as a one-sided motor proposition, is so hard to get. But there is not a single reason, save shortsightedness, why any central-station power engineer in a business community cannot make the fourfold industrial opportunity pay well.

CUSTOMER STOCKHOLDERS

The success of the Consolidated Gas, Electric Light & Power Company's stock plan of offering its customers an opportunity to participate in its profits, is worthy of close study. The more local stockholders a utility has, the more strongly is it intrenched against unjust attack, and the more careful will it be to avoid unnecessary antagonisms. Folk who own stock in the lighting company will not stand idle when demagogues attempt to use their property as a scapegoat; on the other hand, company officials and employees will hesitate to adopt arbitrary measures in dealing with customers who may have the power to carry a complaint into a stockholders' or directors' meeting.

The Baltimore plan, as originally announced, enabled customers to acquire stock at, or better than, the market price and on easy terms. In the first offering, which expired July 10th, the price was $106.50 per share, and 3091 shares were subscribed by 721 individuals, about one-third of whom were women. The offer was renewed for another month ending August 10th, at the price of $107.50 per share. It is now announced that the policy will become permanent, the price being fixed from month to month in accordance with quotations on the Baltimore Stock Exchange.

Any plan which results so definitely in mutualizing the interests of the utility and its customers is a long step toward the elimination of antagonisms; also any such plan which results in the sale, within thirty days, of $329,191.50 worth of stock to persons heretofore not holders of electric light securities, is a long step toward the solution of the financial difficulties which have in recent years oppressed us.

Opportunities and Dangers of Industrial Electric Heating

Big Installations Require Engineering Skill: The Introduction of the Smaller Appliances Calls only for Common Sense and Enthusiastic Salesmanship

By A. K. Young

President Industrial Electric Heating Association

ELECTRICITY for industrial heating offers the largest visible market for the product of the central station.

Industrial electric heating will become the standard method for the same reasons that electric illumination is the standard — the factors in its favor being ease of control, absence of fumes or vitiation of air, safety, flexibility, uniformity and actual economy.

Applications of electric heat to industrial operations are of two general sorts: large installations such as ovens and furnaces, which may require special study and the supervision of a competent and resourceful engineer; and standard or ready-made appliances such as glue heaters, matrix machines, type metal crucibles, hatters' irons and flanging bags, laboratory apparatus, etc., which may be handled by any competent salesman.

The first class of installations must be approached with considerable hesitation. One serious failure may set back the development of heating, as applied to any specific industry, many months or even years. For example, the enameling ovens now in service in the Willys' automobile factory have opened up to the electrical industry a market for similar ovens wherever enameling is done on a large scale, whereas the failure of this installation would have closed the door for a long time to any further attempts to secure similar business anywhere in the United States. The automobile men watch each other's experiments keenly and reject or adopt new methods very largely by the experience of others in the same business. A half dozen automobile manufacturers, scattered throughout the middle west, are now negotiating for oven equipment like Willys' simply because that installation is a demonstrated success; no other manufacturer would even listen to an electric heating proposition today if the Willys' installation had been a failure.

But while the large installations like this engage our imagination and point the way to tremendous sales of energy for heating purposes, the smaller and less spectacular applications — the ready-made appliances — should not be overlooked. It takes an engineer of peculiar ability to design and place a big oven equipment, but any real salesman can sell the smaller units. And these smaller units in the aggregate represent a huge present market which may be secured quickly at the minimum sales expense. The devices are standard; they have been proven both economical and safe; scarcely an industrial plant exists to which one or another of such appliances cannot be sold. Obviously we do not want to let our imagination run riot over the tremendous possibilities of the big installations and blind us to the smaller yet very profitable opportunity which is clamoring for attention.

A. K. Young, of Toledo Railways & Light Company, President of the Industrial Electric Heating Association

The three great arguments in favor of electricity for industrial heating are, the absolute control of temperature, the quality of output and the absence of fumes. In one extreme case the output of an oven was more than doubled through the substitution of electricity for gas. In another case, the output per man per day was increased some 12 per cent in a department where the operatives were compelled to breath the air coming from the ovens, simply because the air from the electric oven was reasonably pure while the air from the gas oven was vitiated.

This disposes of the allegation that electricity for industrial heating is a competitor of gas. The fact is that gas in many cases is wholly unsuited to the service to which it is applied; its use means lessened production, inferior quality of output and inefficient operatives. Can anyone contend that we should refuse to the world a service which means economy, efficiency and the increased welfare of workmen, or that we are doing our duty to our communities by promoting the sale of a deleterious product when we have available for sale something better? Where electric heat is inherently superior it ultimately must be adopted. No "stand pat" policy will avail to keep the better method in the background. Where gas is satisfactory, it will continue to be used. As a matter of fact, both methods of heating will continue to increase side by side, and all talk of competition here is as futile as the old talk of competition between the arc lamp and the incandescent.

The salesman of electric heating appliances must know accurately the service for which they are intended, their capabilities, economies and practical use, just as the power salesman must know the service to which a motor is to be put and the best size and type to accomplish the desired work most economically and satisfactorily. Even in so small a proposition as a chocolate-dipping table, the salesman must understand definitely the confectioner's requirements, his difficulties with other types of heaters, and

exactly what the electrically equipped apparatus means in the way of economy and efficiency.

There is nothing mysterious involved about the application of electric heat to industrial purposes, or about the sale of industrial electric heating appliances. Success means simply hard work, careful thought and the employment of common sense. New-business men who go into the work now, while it is comparatively new, will find in this branch of central-station commercialism a big opportunity for advancement: companies who establish departments specializing in this field will find it a source of great revenue.

Electric Heat for Ink Drying

A Practical Example of Industrial Electric Heating which can be Sold in Every City in the Land

By Arthur F. Allsop

PRINTING is but one of many industries in which electric heat, rightly applied, has proved its superior efficiency and economy over gas and all other modes of heating. The other means of heating are wasteful and comparatively inefficient because so much of the heat escapes into the surrounding air. And in the case of gas heating, poisonous fumes also escape, and man efficiency as well as machine efficiency is thus greatly lowered. Electric heat, on the other hand, is characteristically a concentrated proposition: little or none of it escapes into the surrounding air; most or all of it is applied directly on the work to be done.

Electric heat is now commonly applied in the printing shop to glue heaters, branding irons, book forms, felt burners and for various other operations of book making and book binding. In each and every case, the efficient application of electric heat helps to pare down operation costs, improves the quality of the goods and makes the men more healthy, cheerful and contented than is possible in vitiated air. And each and every one of these heat applications helps to differentiate and make more profitable the industrial load of some central station, unless of course the printing shop chances to be an isolated plant.

Now, although electric heat is used commonly enough for the foregoing operations, its ability to help the printer right at the press has not been so commonly known and utilized. Yet, in every case I know of where electric heat has been efficiently applied to the printing press, it has enabled the printer to get more and better work off the press. To put it more concretely, at a small cost for the initial installation, and only a moderate cost for upkeep and current, the efficiency and output of the printing press will be increased from 25 to 50 per cent. These are not guess percentages, rose-colored by optimism; I know them to be the actual percentages in the case of several printing shops which have come to my attention.

Follow me through any typical modern printing establishment for a moment and note how successfully electric heat can be used for drying the ink on the press — how much better, in fact, it can be used than any other means of heating. At the press, a continuous roll of paper is being subdivided into sheets. These sheets pass through at approximately four miles an hour, and emerge printed on both sides, sometimes in different colors, sometimes folded ready to be passed on to the binding department. How can electric heat be advantageously applied to a machine like this?

Well, note that at the press two men stand at the delivery end. Let us suppose that the press is doing high-grade book printing. As each sheet is deposited from the press, the men place a sheet of plain paper on top of it; then another sheet is delivered from the press and placed on top of the blank sheet. In this way, the printed and the blank sheets are piled in alternate layers until the job is completed. These sheets are left standing for a time, and then the two men remove them. But they work more slowly than before because now they have no machine to set the pace.

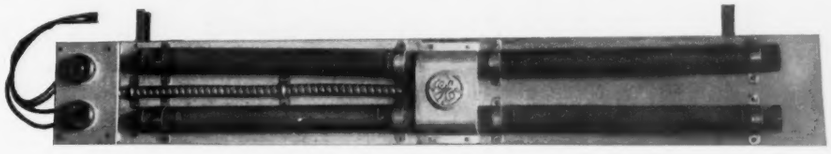
The blank sheets are placed on top of the printed sheets to prevent "offsetting," or the transference of impressions from one printed sheet to another while the ink is still moist. But as I have already implied, this is a wasteful process. Men are employed on it whose time and labor could be utilized to better advantage elsewhere in the shop. And the sheets, instead of going on to the next stage of completion, are left standing idle for an unnecessarily long time. Furthermore, if you are going to allow the ink to be dried by nature in this fashion, a comparatively expensive grade of ink must be used.

Common sense and a proper appreciation of the modern need of economy and efficiency in every industrial operation dictate that some form of artificial heat shall be used to dry the ink more quickly and save all these useless steps and expenditures. But what mode of heating will best do the work? Not steam heat; it is not intense enough. Not gas heat; for although it is sufficiently hot the open gas flame is very dangerous around paper, and it would have to be applied so closely in the drying that a fire would be almost certain to result. Often, in fact, the press has to be stopped directly over the gas flame. For this reason, the fire underwriters of many cities will not allow gas heat to be used for the purpose.

Now, electric heat is free from all these disadvantages. It dries the ink on the sheets so quickly that all danger of smudging is eliminated, and the wasteful process of employing two men to insert "slip sheets" becomes no longer necessary. It also often permits the use of a cheaper grade of ink, and the use of heavier ink in presses of the re-wind type.

An approved type of electric ink dryer is shown in the accompanying illustration. It is designed to take up little space and to be attached or removed from the press at will. It consists of four special heating units which may be had in the 350, 500, 625 and 750-w. sizes, and 110 to 250 volts. Resistance wire is wound in spiral form about an asbestos tube. The tube is dipped in silica compound and then baked until hard. The ends are capped with metal rings for protection against mechanical injury. The heater tubes are hollow and both inner and outer heating surfaces are exposed in order to give a large amount of air-heating surface.

After the apparatus is installed, the ink on the sheets is quickly dried by means of convected currents of warm air. The heater is placed as closely as possible to the paper or "web," as printers call it, and shields are provided to confine as much of the heat as possible to the face of the paper, and thus to prevent as much as possible from escaping into the surrounding air. On the other hand, the apparatus is kept as far from the ink roller as possible in order to prevent melting or changing the roller's shape. In order to obviate the danger of this, it is sometimes advisable to insert a sheet of heat-insulating material between the dryer and the rolls. On large presses where a dryer of high capacity is used, a shut-off for the heat, in the form of a removable asbestos sheet or heat-insulating shield, should be slid between the dryer and the paper. When space permits, the dryer should be installed with a hinge at one end so that it can be swung down away from the paper and so prevent charring. A counter-weight can be used so that very little



Unit used for ink-drying on large press

DOMANCO

ELECTRIC IRON

THE BEST "CAMPAIGN" IRON, BECAUSE—IT CONTAINS A "VEA" HEATING ELEMENT

VEA HEATING ELEMENT

The "Vea" Heating Element represents indestructibility. Irons with "Vea" Elements reduce the cost of your repair department, they stay in continuous service, and they develop satisfied customers to boost the electric appliance game..... You cannot afford to offer a "cheap" iron with a doubtful element—especially when you can buy irons with "Vea" Elements at prices as low as any "cheap" iron. Hear our proposition. Write.

VEA HEATING ELEMENT

MANUFACTURED BY

The Dover Manufacturing Co.

CANAL DOVER, OHIO

energy will be required for the operation. All these may seem to be unnecessary details in a "How To" article, yet they are some of the things that the central-station electric heat salesman should know when he approaches the printer. While electric heat is still in the embryonic stage, the central station which will make the swiftest progress with this new and attractive industrial opportunity will be the one best able to build customer confidence by selling superior heating service as well as apparatus and current. And advice and suggestions which will help the customer to minimize accidents to his machines, men and materials, are an important item of high-grade electric heating service.

The question is often raised: Will the intense heat of the electric ink dryer destroy the texture of the paper? There is not the least danger. Consider that the paper travels from four to six miles per hour through the press. If you could pass your hand at this speed through an open gas flame, you would feel no intense heat. It is the same with the paper. On a test made with a 4000-w ink dryer, placed eight inches away from the roll it took three minutes to destroy the paper after the press was stopped. There was no combustion or flame: the paper simply was charred until it fell to pieces.

To sum up: the substitution of the electric ink dryer for the "slip sheet" men saves money for the printer. It takes three two-dollar-a-day men to complete the process at a cost of $6 a day. The largest electric ink dryer that can be used on a press required for this type of work will consume 8 kw. per hour. At a 5-cent heating rate, this current consumption would amount to 40 cents per hour or $3.20 per 8-hour diem. Thus your printer saves $2.80 a day in labor costs, and is free to let the old "slip sheet" men go, or to use their services in other directions.

The substitution of electric for man labor will also greatly speed up the press and give more and better work. The writer has seen the thing actually work out. For example, on a certain make of large rotary presses ink driers of a capacity of from 10 to 14 kw. are required. The manufacturer claims that these presses can run paper through at six miles per hour. After the most careful investigation of such claims, I never found a press capable of running faster than four miles per hour simply because the ink would not dry fast enough to permit of greater speed. However, where electric ink driers have been installed on these large presses, I have found the speed of six miles per hour perfectly possible. In this case it is of course never necessary, as under the old method, to slow down the press so that the "slip sheet" men can keep up with it.

Electric ink drying also offers a particularly valuable profit consideration to the printer who handles a great deal of low grade work such as mail-order catalogs. Then, a cheaper grade of ink can be used, and the saving here alone will more than pay for the current consumed.

Finally, the use of the electric ink dryer absorbs the moisture in the air, provides dry air currents, and thus causes the static electricity to be discharged into the surrounding atmosphere. As static electricity around the presses is one of the printer's real tribulations, the point is well worth bringing up by any central-station salesman out for printing business.

I have endeavored to explain above how electric heat can be employed in one phase of one industry to the mutual profit of the customer and the central station. It can be employed to equally good advantage for several other operations in the print shop, and for many operations in 100 other industries. Even though the range of applications of electric heat may be exceedingly wide, there is a common center of interest in all — for the customer, improved efficiency and economy in every operation where electric heat is employed; for the central station, an adequate monetary return for the service rendered.

The Industrial Electric Heating Association was recently formed in Toledo. Its purpose is to eliminate or minimize errors at the same time that it promotes the most rapid practicable development of electric heating. It now seems probable that this organization will consolidate with and develop into an electric heating bureau along the lines of the power bureau of the National Electric Light Association. As such a bureau it would collect all data on the subject at one focal point so as to be easily available for all members. Each member company would be expected to feed to the common fund of knowledge by assigning a man to the duty of reporting in detail his company's methods of dealing with electric heating campaigns.

Reports of tests on various makes of appliances could be kept on file. This is very important in order to protect our own industry and industry at large from the large number of inferior electric heating appliances which have been placed on the market by "fly-by-night" concerns. This would be one valuable way to eliminate or minimize those errors which might create a bad outside impression that the industry is now so anxious to avoid in all its dealings with the public.

However, although industrial electric heating associations or bureaus can do much to further the cause; even though high-grade manufacturers are doing a great deal to standardize electric heating apparatus and to make it an attractive buy for the mill or factory man; after all, it is the individual central-station power department which from now on will largely determine how many printing shops, and how many other kinds of industries are going to utilize electric heat. If in my article, I shall have stimulated a few power men to systematically canvass all the printers in their territory, the net gain for them will be a neat addition of revenue to the industrial load and greatly enhanced customer satisfaction.

The New Central-station Bonanza

A Resume of Industrial Heating Facts Brought out in Recent Papers and Discussions

THE formation of the Industrial Electric Heating Association and the numerous papers and reports bearing on the subject which were presented at the San Francisco convention, have focused the attention of the industry, as never before, upon the great desirability of industrial heating. It has also brought to light the lamentable fact that, although practically every central station admits the value of this class of business, and although every community offers many opportunities for it, no more than five per cent of central stations have attempted to develop the field in anything like a systematic manner. An analysis of the information and data on the subject now available brings out the following as the principal reasons for this backwardness:

1. Previous lack of an organization combining manufacturing and central-station experts to study and gather all available information on the subject. This was assigned as the chief reason for the formation of the Industrial Electric Heating Association.

2. Limited production by the manufacturers of industrial heating apparatus, hence prices which place it beyond the reach of many possible users of electric heat. The manufacturers argue that production cannot be increased to any extent until the central stations have greatly increased the demand.

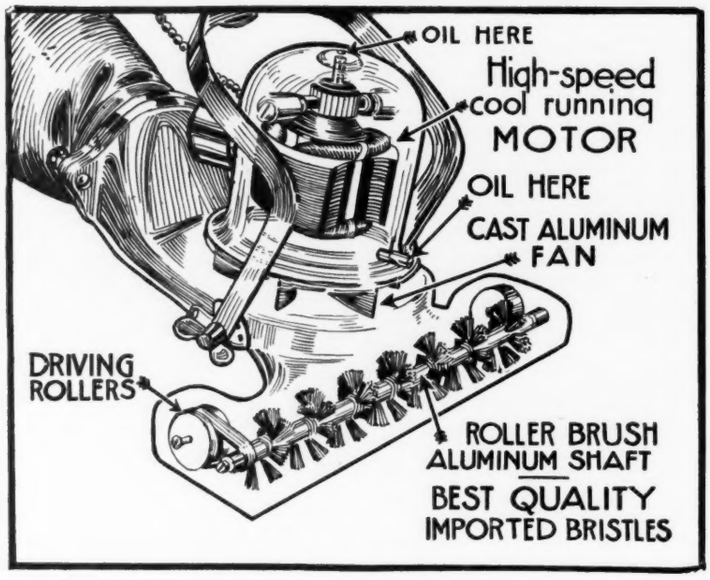
3. The failure of many central stations to offer rates which would make industrial electric heating feasible, especially for the small manufacturer.

4. Lack of the same kind of sales-development cooperation between the manufacturers and the central stations in the electric industrial heating field, which, in the domestic appliance field, in less than ten years built up an industry of tremendous proportions.

5. Lack of a clear conception on the part of the central stations as to which department should develop the industrial appliance business. Some argue that the field is too small for the power salesman; others that it is too large and complicated for the domestic appliance salesman. And while they are trying to make up their minds, they stumble over the golden nuggets which lie at their feet. Furthermore, it seems to be a debatable question whether the technical or the non-technical man would make the best kind of industrial heating-appliance salesman. Most experts seem to favor the latter, while in its report before the Commercial Section, the Committee on Merchandising went on record as favoring the technical man.

6. Failure, under any conditions, of

Three Kinds of Dirt Removed by The OHIO



There are *three* kinds of dirt in every carpet—dust, lint and grit.

Any old suction sweeper will remove dust.

Only sweepers with a *revolving brush* will remove lint.

Only sweepers with a revolving brush *strong enough* to actually *beat* the carpet will remove grit.

The OHIO Model J Suction Sweeper has a belt-driven roller brush which *both* removes lint, threads, etc., and *beats* the carpet sufficiently to dislodge the grit and sand.

This is an *exclusive* feature. It makes sales *easy* and satisfaction *sure*.

The brush is not so rough that it wears out the rugs, nor so weak that it misses the heavy grit and sand imbedded in the nap.

The OHIO is *the* central station sweeper. It is trouble-proof. You don't have to make repairs and replacements —you don't have to run a "service" department to constantly tinker the machines.

BUY JUST ONE SAMPLE. THE MACHINE IS OUR BEST SALESMAN.

Manufactured and Guaranteed by

THE WISE-HARROLD ELECTRIC CO.

New Philadelphia, Ohio, U. S. A.

the average central station to map out its possible industrial heating field, industry by industry, and to develop it as has been done in the general power field. Under this last heading it is worth while to consider a sufficient number of applications of electric industrial heating to suggest the wide scope of the field.

Take electric furnaces alone, where the development must be done by men of sound technical training: the community is badly off indeed which does not contain at least several manufacturing plants which could use from 12 to 75 electric furnaces apiece. In the metal industries, the number of possible applications of electric heat for hardening, melting, annealing and sherardizing metals is most impressive. In addition, electric furnaces are being commonly used for heating oil tempering or drying baths; boiling varnishes; baking japan, enamels and lacquers; baking insulating compounds, drying out impregnated woods and vulcanizing; heating moulds; and in forge and foundry.

Of course the most practical place for the central station to begin to develop this business is in the small industries where non-technical salesmen may be employed. For example, the carpenter shop, the box factory, the pattern shop, the book-bindery, and many other small shops are natural markets for electric glue pots. Electric irons can be sold to laundries, tailors and hatters; corset irons to the corset manufacturer; electric bakery ovens to the bakers; matrix driers, and linotype and monotype pots to the newspapers and print shops; branding and soldering irons wherever needed; hospital sterilizers; chocolate warmers and batch warmers to confectioners; apparatus for hatters such as electrically heated hat blocks, hat presses, flanging bags, finishing irons, curling irons, velouring stoves; electric gold beaters for gold-leaf manufacturers; hosiery forms for finishing and drying hosiery; special heaters for preserving various kinds of cheese; electric heaters for drying films in motion picture manufactories; electric beer-vat driers; special electric stoves for engravers; disc stoves to be used by chemists; soldering machines for jewelry manufacturers. The shoe manufacturer can also use many applications of electric heat: the embossing machine for stamping leather facings on the inside of shoes; folding machines for folding leather or cloth; seam-rubbing machines for pressing down rough seams; flatirons for heating rubber cloth to cement it to cloth or leather; crimping machines, stamping machines and wax-knife heaters.

Just to glance at this partial list of electric industrial-heating applications which are actually paying good revenue to central stations in various parts of the country, is to verify this striking remark made before the organization meeting of the Industrial Electric Heating Association. "The future of the electrical business, when industrial heating has become common, staggers the imagination."

Right Temperatures for Electric Cooking

AT the 32nd annual convention of the American Institute of Electrical Engineers, P. W. Gumaer read a paper on "The Economic Operation of Electric Ovens." This paper was based on a series of experiments with three commercial electric ovens and one experimental oven to determine the losses of energy in electric cooking and the best methods of preparing various foods in electric ovens. As the industry comes more and more to develop the market for electric ranges, it will become increasingly necessary for central-station commercial men to coach customers regarding proper cooking temperatures and ways to save losses of energy. During his experiments, Mr. Gumaer uncovered a great deal of valuable data of this kind. Space limitations crowd out the entire paper, but we present here a summary of results and conclusions which every commercial man who is interested in electric cooking should read carefully.

The first oven used in the experiments was a large range suitable for a good-sized family with a heating unit in the top and another in the bottom of the oven. Three heating units were also placed on top of the stove for cooking not done in the oven. The second oven was a small, well-insulated oven suitable for a small or medium-sized family, with one heating element and an automatic temperature control. The third oven was a fireless cooker, and the fourth an oven constructed by Mr. Gumaer, especially well-insulated, with heating units in top and bottom of the oven. Mr. Gumaer attributes heat losses in electric ovens to three sources — radiation, convection and preheating. A clear understanding of these terms is so necessary to a proper appreciation of the following summary and conclusions that we give the definitions here for the sake of the commercial men who are a bit rusty on engineering. Radiation is, roughly, the loss of energy in every direction from the common source. Electric convection is the uneven distribution of heat when an electric charge or current is sent through a metallic wire, different portions of which are kept at greatly varying temperatures. Preheating is simply the operation of heating the enclosed air of a cooled-off electric oven up to cooking temperature. Now for the summary:

1. The energy lost when the door of an electric oven was opened for 15 seconds was found to vary from 5 to 15 watt-hr., depending upon the temperature of the oven.

2. The temperature required for roasting a rolled-rib roast of beef was 160 deg. cent.

3. The per cent loss of weight of the roasts was found to increase with the oven temperature used.

4. The most economical temperature for preparing rare and medium rare roasts was found to be 100 deg.; for well-done roasts 120 deg. cent.

5. With electricity at $.05 per kw-hr. it is at least $.02 cheaper to roast beef at 100 to 120 deg. cent. than at 180 deg.

6. It was found that at least 1000 watt-hr. could be saved by searing the roast on top of the stove instead of heating the whole oven up to 250 deg. cent., in order to sear it inside.

7. The range of oven temperatures for baking biscuits was found to be from 200 to 240 deg. cent. Starting with the oven at the required temperature, the energy used in baking biscuits is practically the same for all oven temperatures. If it is necessary to heat up the oven from room temperature, the most economical oven temperature is the lowest which will give satisfactory results; *i.e.*, about 200 deg. cent.

8. The range of oven temperatures for baking a small-sized loaf of bread was found to lie between 180 and 240 deg. cent. Starting with the oven at the required temperature, the most economical temperature for baking bread is between 220 and 240 deg. cent. When preheating is included, the most economical temperature for a small-sized loaf was found to be between 200 and 215 deg. cent.

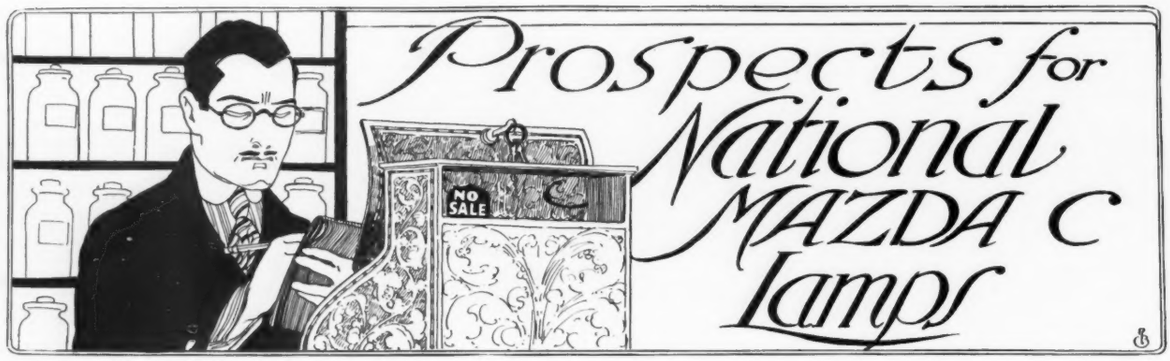
9. The range of oven temperatures for baking sponge cake was found to lie between 170 and 190 deg. cent. For baking sponge cake the most economical oven temperature is the highest temperature which will give satisfactory results; *i.e.*, about 190 deg. cent.

10. The results of the cooking experiments in electric ovens indicate that it is possible to reduce the art of cooking with electricity to an exact science. If definite rules of time and temperature were formulated for cooking each article of food, the inexperienced housewife could obtain uniformly good results with the expenditure of a minimum amount of attention and fuel.

By way of conclusion Mr. Gumaer has this to offer:

"The present status of cookery is due, in a large degree, to the lack of adequate means of controlling the temperature of the food. When using the ordinary wood or coal cooking range the degree of heat is controlled chiefly by dealing with the food itself rather than by regulating the heat at the point of combustion. The amount of draft necessary to promote the combustion of the fuel causes too great a degree of heat in the oven or on the stove to enable the cook to deal with the food in the proper way except by constantly watching it, stirring it, and changing the position of the vessel on the stove or in the oven.

"With the advent of electric ovens a revolution in the methods of cooking has become possible. Automatic electric ovens will probably be developed in which the temperature will be accurately controlled and the necessity of constant vigilance removed. Some kinds of food will even be prepared in advance, placed in the oven, and without any further attention on the part of the housewife the



TAKE any business thorofare after dark. If there are fifty stores in sight you have fifty prospects for National MAZDA C lamps.

Even the merchant who says, "I have all the light I need," will change his mind after you have equipped his neighbors and competitors with these new business stimulators and his cash register begins to gather rust.

There's only one prospect who's easier to sell than the one who does not use National MAZDA C lamps. He's the man who does use them.

Now is the time and the National MAZDA C is the lamp.

NATIONAL LAMP WORKS
OF GENERAL ELECTRIC CO.

Nela Park, Cleveland

Member Society for Electrical Development: "DO IT ELECTRICALLY"

current will automatically be turned on at a predetermined time. The temperature of the oven will increase to the desired value and there remain constant until the food is properly cooked.

"With this method perfected the advantages of electric cooking over the other methods will be great and in many cases the cost will not be excessive. To the possibility of obtaining uniformly well-cooked food should be added the saving to the housewife in time and worry, and the absence from the kitchen of excessive heat.

"The present day problem in electric cooking is to determine the methods of cooking that will yield the most in nutrition and flavor, and to formulate definite rules or directions so that a particular article of food can be cooked in the best possible manner by persons of ordinary skill. The engineer's problem is then to design practical cooking devices in which the temperature can be accurately regulated with a minimum of attention on the part of the housewife.

"Electric cooking may be classified according to the temperature to be used in the oven. The baking of bread, cake, and pastry requires a high oven temperature from 170 to 240 deg. cent. In the average family where the oven is used intermittently a large part of the electricity used in this class of baking will go to heat up the oven from room temperature to the required baking temperature. In other words the preheating loss will be large compared with the radiation and convection loss.

"The preparation of vegetables, cereals, and meats (except for searing, broiling, and frying) requires a low degree of heat, 80 to 120 deg. cent., applied for several hours. In this class of cooking the preheating loss is small in proportion to the radiation and convection loss.

"The increased popularity of the fireless cooker indicates that people are learning that food can be cooked at temperatures lower than the boiling point of water. Aside from the question of the quality of the food and the saving in electricity, four hours would probably be the best time to cook the food in the fireless cooker. The housewife could put in the food for the midday meal immediately after breakfast while the oven was still hot. When it is taken out she could put in the evening meal so that the oven would be used continuously. The preheating loss would thus be reduced to a minimum. During the latter part of the afternoon the housewife need not be tied to her kitchen, as all that would be necessary at this time would be to dish up the food and serve it.

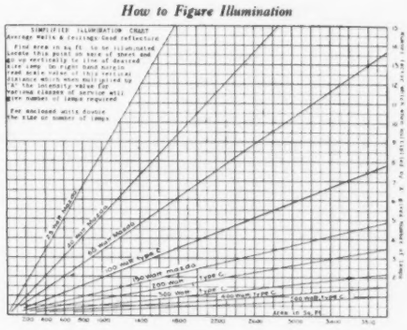
"The electric light and power companies should be interested in perfecting this method of cooking and in bringing it to the attention of their customers. A combination of the electric oven and the popular fireless cooker would be a very desirable load for the central station. It would be a nearly steady all-day load and would not interfere with the peak load even in the winter as sufficient heat can be stored in a well-insulated oven to keep the food hot enough to serve for an hour or more after the current is turned off.

"Since the experiments of the author are very meager in comparison with the enormous amount of investigation which will be necessary before the art of cookery will be reduced to a science, it is thought that the results obtained will serve more as a preliminary to further investigation than as a basis for immediate reforms in the methods of electric cooking."

Easy to Figure Illumination

Every solicitor of the Texas Power & Light Company of Dallas is provided with a copy of the simplified illumination chart shown in the illustration, and finds it very handy for quickly determining the proper number of lamps to use in lighting a given area. When used in

How to Figure Illumination



Foot Candles Intensities Recommended for Various Services

Auditoriums	2.0	Residences:	
Ball Rooms	2.0	Hall	.7
Banks—General	3.0	Reception	1.0
Banks—Desks	5.0	Dining Room	1.5
Bar Rooms	3.5	Kitchen	2.0
Barber Shops	4.0	Bed Room	1.5
Billiard Halls—Tables	6.0	Bath	2.0
Cafe	3.0	Show Window	20.0
Church	2.0	Store—Clothing	3.0
Court Rooms	2.5	Drug	3.0
Draughting Room	8.0	Grocery	3.0
Library—Reading Room	3.0	Hardware	3.0
Office—General	6.0	Jewelry	5.0
Postal Service	7.0	Shoe	3.0
Pool Tables	6.0	General Mdse	3.0

conjunction with the table of average intensities for various services which goes with it, any ordinary lighting problem can be accurately solved. The chief value of the chart is that it removes illumination calculations from the realm of technicality and makes it possible for any lighting salesman, no matter how limited his technical equipment, to pass upon all problems with which he meets in his ordinary day's work.

Doherty Cash for Ideas

Henry L. Doherty & Company has announced that it will distribute nearly $2500 in prizes for competitive papers within the next six months.

Thirty-two subjects for papers have been selected, embracing gas, electricity, street railway, accounting, natural gas and oil, new business and bonds. For each subject prizes will be offered as follows: First, $40, second, $20, third, $10.

Send For Our
Investment Booklets

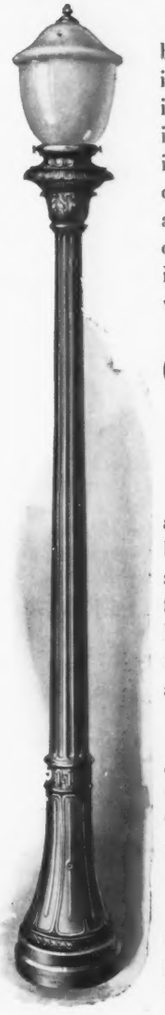
These pamphlets issued by our Bond Department tell you exactly what you want to know about the small denomination securities of the utility companies under our management. They are reinforced by the most complete annual reports of their kind issued.

Conservative Investments
Yielding from 5.40% to 7%

H. M. Byllesby & Company
Incorporated

Chicago, 210 South LaSalle St. — New York, Trinity Bldg.

WE CAN HELP
YOU TO SELL AND INSTALL
STREET LIGHTS



We offer you the benefit of our experience in the preliminary work of securing White Way installations. We can save you time and expense. We can insure you an installation that will have no regrets.

Ornamental Lighting Poles

are designed to add beauty to your streets, but they do far more. They help make your town prosperous by attracting business.

This particular design of pole is for the high efficiency Type "C" Mazda Lamp.

Let us tell you more about our product and service.

ORNAMENTAL LIGHTING POLE CO.
POLES FOR ALL TYPES OF LIGHTING
·118 LIBERTY ST. NEW YORK·

THE ASSOCIATIONS

Indiana Meeting

The Indiana Electric Light Association will hold its annual meeting, September 8-10, at New Deming Hotel, Terre Haute.

Northwestern Convention at Portland

The annual meeting of the Northwestern Section, N. E. L. A., will be held, September 8-11, at Portland, Ore.

Mississippi Convention Date

The annual convention of the Mississippi Electric Association will be held at Hattiesburg some time in November.

Jovians Change Names

The Portland (Ore.) Jovian League has changed its name to the Portland Electrical Club.

Penn State Convention

The eighth annual convention of the Pennsylvania Electric Association will be held at Bedford Springs, September 8-10th.

Jobbers' Quarterly

The regular fall quarterly meeting of the Electrical Supply Jobbers' Association will be held, September 14-16, at Clifton Hotel, Niagara Falls. September 15 will be manufacturers' day.

Portland E. V. A. Officers

A Portland (Ore.) section of the Electric Vehicle Association has been organized with the following officers: president, W. Spaulding; vice-president, N. A. Stanton; secretary, George Beazow.

Cleveland Choice of E. V. A.

The 1915 convention of the Electric Vehicle Association of America will be held, October 18-20, at Cleveland. The Association now has 16 local sections, Kansas City and Portland, Ore., having recently swung into line.

Barbecue for Georgia Contractors

A barbecue at Goat Rock was the entertainment feature of the quarterly meeting of the Georgia Electrical Contractors' Association at Columbus, Ga., last month. Two business meetings were held at the Ralston Hotel.

Date of Colorado Meeting

The 13th annual meeting of the Colorado Electric Light, Power and Railway Association will be held at Glenwood Springs, Col., September 23, 24 and 25.

New Officers for Kansas Contractors

The new slate of the Kansas Electrical Contractors' Association is as follows: president, I. C. Bushong, Ottawa; vice-president, J. A. Mercer, Topeka; treasurer, H. S. Lee, Topeka Edison Company; secretary, R. N. Sutton, Wichita.

Field Day of Tennessee Company

The annual field day of the Tennessee Light & Power Company was held last month, about 500 officials and employees attending. Delegations from Nashville, Chattanooga, Cleveland, Caney Creek and Parksville helped to make the affair more representative.

Vicksburg Rejuvenation

Initiates to the number of 20 were put through their sprouts at a rejuvenation of the Vicksburg Jovians which was held aboard the steamer J. H. Menge in the Mississippi River last month. The list of guests contained a number of well-known names.

Outing of Erie Jovians

About 90 members, besides guests from nearby localities, attended the annual outing of the Jovian League of Erie at McDonald's Grove, east of the city, in July. The married members defeated the bachelors at baseball by a score of 12 to 6, and an excellent fish dinner was served.

Kansas-Missouri Contractors Meet

The Missouri and Kansas Electrical Contractors' Associations held a joint convention at Kansas City in July. Although the attempted consolidation of the associations did not go through, close cooperation was inaugurated in a practical way. The subject of consolidation was left in the hands of a committee for further investigation and especially for conference at the national meeting.

Technical Men Organize

The engineers of Illinois have formed an organization to be known as the "Associated Technical Men." The purpose is to promote the general welfare of the members and to advance the engineering profession. Officers: president, C. E. Schutt; secretary, A. E. Gibson; treasurer, H. E. Young, all of Chicago; board of directors, G. A. Young, La Fayette, Ind., H. A. Allen, W. H. Arthur, J. C. Kelsey, C. H. Shepherd and H. A. Seward, all of Chicago. General offices, 180 North Dearborn Street, Chicago.

New England Section Program

The following is the program of the New England Section, N. E. L. A., convention, September 14-17, Mount Kineo House, Moosehead Lake, Kineo, Me.

September 14, evening: reception, dancing and card playing.

September 15: Power Day. Two business sessions with 20-minute papers on the following subjects: "Why Central Stations Do Not Get All the Big Power Business;" "Central Station Practice in Renting Motors for Factory and Mill Installations;" "Standardizing of Voltages for Mill and Factory Motor Service." Formal dinner at night.

September 16, morning: Public Service Commission session. Afternoon: paper and discussion on "Present Developments of Type C Lamps."

September 17, morning: Report of electric vehicle committee. Afternoon: sports and entertainments.

Convention of Michigan Section

The annual convention of the Michigan Section, N. E. L. A., was this year held afloat. The Steamer "Rochester" was chartered for a cruise from Detroit through Lakes Ste. Claire, Huron, Superior and Michigan. Convention sessions were held on board and intermingled with sight-seeing trips ashore. About 135 members and guests attended. Officers were elected as follows: president, S. A. Freshney, Grand Rapids; vice-president, Thomas Chandler, Sault Ste. Marie; secretary-treasurer, Herbert Silvester, Detroit; executive committee, A. C. Marshall, Detroit, J. A. Cavanaugh, Benton Harbor, A. D. Furlong, Saginaw, H. W. Courville, Jackson, H. A. Fee, Adrian. President Fee's address was on "Concentric Wiring." Other speakers were D. R. Kennedy, Youngstown (O.) Sheet & Tube Company, on "Safety;" J. V. Oxtoby, Detroit, on "Recent Legal Discussions Influencing Public Utilities;" E. J. Edwards, Cleveland, on "The Progress of Artificial Lighting;" J. H. Loban, Detroit, on "Comparative Cost of Magnetite-Arc and Nitrogen-Filled Tungsten Street-Lighting Units." There was also a round-table discussion of uniform rates and farm lines.

Chicago for Big Jovian Convention

The thirteenth annual convention of the Jovian Order will be held at the Hotel Sherman, Chicago, October 13, 14 and 15. All arrangements are in the hands of the Jovian General Committee: Homer E. Niesz, chairman; V. E. Tousley, vice-chairman; G. W. Cummings, secretary. The chairmen of the various other committees are as follows: entertainment, G. H. Porter; transportation, L. W. Kittman; registration, E. C. Bennett; program, V. H. Despard; decoration, Stephen Gardner; ladies, F. P. Vose; finance, J. F. Gilchrist; badge, A. L. Eustice; hotel, M. P. Ellis; publicity and promotion, A. A. Gray; rejuvenation, G. C. Richards; automobile, G. A. Freeman; reception, Ray Palmer; membership, E. W. Donoho; printing, G. M. Swain. The program:

October 12, evening, reception and dance.

October 13, morning, business session; noon, luncheon under the auspices of

business associations of Chicago; afternoon, outing trip; evening, pageant and entertainment.

October 14, morning, business session; afternoon, degree team competition; evening, annual rejuvenation.

October 15, morning, business session; afternoon, closing session and election of fourteenth congress; evening, banquet.

West Virginia Utilities Band Together

The public utilities of West Virginia, including central stations, electric railways and water works, have organized under the title of the Public Utilities Association of West Virginia. The aim of the association is to promote the interests of public utility companies along educational and political lines. Permanent officers have been elected as follows: president, Herbert Markle, general manager, Appalachian Power Company, Gluefield; first vice-president, G. O. Nagle, general manager, Wheeling Traction Company; second vice-president, Mentor Hetzer, general manager, Moundsville Water Company; third vice-president, James Imboden, general manager, West Virginia Light & Traction Company; secretary and treasurer, W. C. Davis, vice-president, West Virginia Water & Electric Company; executive committee, W. C. Matthews, president, Virginia-Western Power Company, Clifton Forge; Herbert Markle, G. O. Nagle, Mentor Hetzer; O. B. Welch, vice-president and general manager, Williamson Light & Power Company; W. L. Foster, general manager, Beckley Electric Light & Power Company; H. S. Newton, general manager, Ohio Valley Electric Company, Huntington; E. W. Alexander, general manager, Charleston-Dunbar Traction Company, Charleston; W. A. Maxwell, general manager, Logan Heat, Light & Power Company.

Southeastern Convention in Fall

The annual convention of the Southeastern Section, N. E. L. A., will be held, September 22-24, at Grove Park Inn, Asheville, N. C.

Convention papers will be as follows: "Accounting," A. A. Wilbur, Columbus, (Ga.), Power Company; "Advertising and Its Direct Relation to Central Station Field," T. J. McManis, Harrison Lamp Works; "Electric Heating Devices," W. H. Stearns, General Electric Company, Pittsfield, Mass.; "Distant Controlling Switchboard Design," T. W. Fuller, Westinghouse Electric Mfg. Co., Atlanta; "Electric Power for Driving Textile Mills," H. A. Orr, Southern Public Utilities, Anderson, S. C.; "Efficiency in Serving the Consumer," J. H. Mohl, Cordele, Ga.; "Sale of Current to Municipally Owned Distributing Systems of Street Lighting," W. R. Collier, Georgia Railway & Power Company, Atlanta; "High Tension System and Their Operation," W. E. Mitchell, Alabama Power Company, Birmingham.

983

Here it is! Number 983, the new Holophane reflector for show window lighting.

It is practical in every detail. Strong and durable, easy to install, easy to clean, high in efficiency; and finally —even with all these superior merits — it is the lowest-priced good reflector ever placed on the market.

983 will eliminate unlighted windows. It produces so brilliant an illumination, at so low a cost, that your solicitors can easily convince the most conservative merchant.

We believe in 983. Write for our guarantee on orders.

HOLOPHANE WORKS
Of General Electric Co.
CLEVELAND, O.
New York Boston Philadelphia Chicago St. Louis

Here is an authentic testimonial from a well-known central-station sales manager whose name we are not at liberty to divulge. If YOU'RE laying plans for a Fall Wiring Campaign, read it:

"We used 500 copies of your **Dirtless Workman** last May as a preliminary break-ground to an old-house-wiring campaign.

"We chose your booklet because it explained away the fear of dirty, destructive wiremen better than any other piece of mailing literature we had seen.

"With every copy mailed out, went a circular letter which urged a careful reading, and study of the illustrations and diagrams showing how quickly and neatly the modern wireman does his work.

"The results far surpassed our expectations.

"Surprisingly few copies were thrown away.

"For the most part 'Dirtless Workmen' was read from cover to cover, and proved itself a clever advance salesman.

"So, when the regular salesmen called they found many prospects well posted and ready to consider specific details—types of installations, costs of wiring and equipment for each room.

"During the month, we wired a record number of old houses. 'Dirtless Workman' was a dominant factor in this success, because by providing the necessary education in advance, it early focussed popular attention on our liberal unit-price offer and the other terms of the campaign. Thus the efforts of our salesmen and the regular newspaper advertising were rendered doubly effective."

"DIRTLESS WORKMAN" will make an equally productive advance wiring salesman for YOUR Fall Campaign. Try it.

3 cents a copy in 500 lots

THE RAE COMPANY

17 Madison Ave., New York City

NEW ELECTRICAL MERCHANDISE

News from the Manufacturers Trade Literature

Battery Service Explained

Under the title, "Trouble-Proof Trucking," the General Vehicle Company of Long Island City, N. Y., has issued a booklet explaining the so-called battery service system of charging electric vehicles. This system has been in successful operation in Hartford, Connecticut, for several years and has recently been adopted in Boston. In both cities, General Vehicles are used.

Selling Appliances through the Window Pane

A novel experiment is being tried out by Benjamin Hurd, manager of the Western Electric Company's supply store at Park Place, New York, to get increased action from passers-by who may be interested in some electrical appliance they see in the show window, but not sufficiently interested to make the inquiry which leads to the sale. Several interphones have been extended through to the street side of the window, while a desk equipped with order books, interphones, and electric appliances, has been placed just inside the window. An order taker sits at the desk in plain sight of the crowds passing on their way to the Hudson tubes. If a passer-by sees something he likes in the window and wants to know about it without taking the bother to go into the store, he simply picks up one of the outside interphones, and asks what he wants to know of the clerk at the desk. Manager Hurd says that the idea has proved so popular that crowds gather every day about the phones waiting for their turn to ask questions. Not only have thousands of inquiries thus resulted, but a large number of actual orders have been taken over the interphones by the man inside. Incidentally the Western Electric Company's New York mailing list is being greatly extended by the new addresses which are obtained.

Grand Prize for Western Electric

The Western Electric Company, of New York, was awarded the grand prize at the Panama-Pacific Exposition for its exhibit as a whole. This company also received gold medals for the following exhibits: telephone switchboards and equipment; telephone train-dispatching and control apparatus; insulated wires and cables; also bronze medals for mine-rescue equipment and mine telephones. Silver medals were awarded to the American Electrical Heater Company for electric irons; the Gray Pay Station Company for telephone pay stations, and the Conlon Washing Machine Company for Western Electric-Conlon washing machines. The Western Electric Company is distributor for these products and included them in its exhibit.

New Salesmen's Handbooks

Among the latest Westinghouse publications are No. 2, "The Lighting Dictionary," and No. 3, "Modern Lighting Practice," in the salesmen's lamp handbook series.

The lighting dictionary is a symposium in clear, concise language of practically every term that the central-station salesman is called on to use or understand in connection with lamp and lighting business. The second booklet deals with the fundamental principles of home, store and window lighting, presenting the subject in a practical, commercial way. Under the heading, Residence Lighting, full information is given regarding the installation of outlets, general or local lighting, the lighting of verandas, halls, living rooms, dining-rooms, bedrooms, bathrooms, kitchens, laundries and cellars. In the section devoted to store lighting, the following matters are considered: utilization of light, quantity required, direct and semi-indirect lighting, lamp usage, redirection of light, lighting glassware, ceiling outlets and ceiling treatment. In the window-lighting section, attention is called to the proper placing of lights, reflectors and their use, spacing of reflectors, reflecting surfaces, concealment of illuminants and sign transparencies.

These booklets are sent free to any salesman upon request to Elliot Reid, Advertising Department, Westinghouse Lamp Company, 1261 Broadway, New York.

Reco Flasher Bulletin

A new bulletin of 32 pages has just been issued by the Reynolds Electric Company of Chicago, descriptive of its line of on-and-off, two or three color, spelling, speed, script, chaser, lightning, flag and cabinet type flashers.

An interesting and valuable feature of the bulletin is the group of wiring diagrams showing how the various effects are produced.

Customer ordering goods without entering store. If any merchant doubts the fact that "window shoppers" actually buy, Mr. Hurd will convince him to the contrary, that they do

Story of Lighting Rate

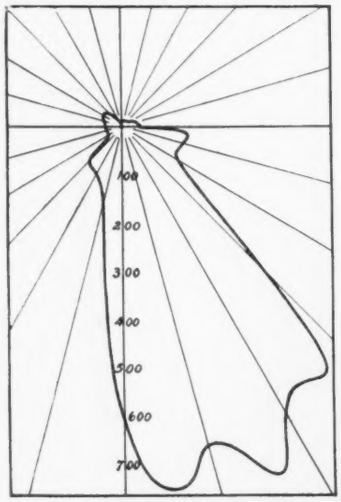
Under the title, "The Story of Lighting Rate C," the Pittsburg Electric Specialties Company tells the story of how 344 new customers were secured for the Narragansett Lighting Company of Providence through the adoption of a new rate based upon the use of Excess Indicators. This story originally appeared in the April issue of *Electrical Merchandise*. The rate described consists in a service charge per kilowatt of maximum demand plus a very low current charge per kilowatt-hour. Its effect is to induce small customers who ordinarily use electricity for short-hour burning and gas for long-hour burning to reverse their system and give the desirable business to electricity. In Providence, the C Rate resulted the first year in increasing the company's income $15,700 per annum from small commercial customers whose demand ranged from one-quarter to four kilowatts.

New Window-lighting Reflector

The Holophane Works, Cleveland, Ohio, have brought out a new prismatic reflector of the angle type for 100-watt Mazda C lamps for show-window lighting. It is so designed that when hanging pendant, it throws a strong stream of light downward and backward into the window.

This reflector is highly practical and easily adaptable to varying requirements. The manufacturer claims as its most notable features:

Ease of installation. With the chart supplied for installation, it is an easy matter to determine the best method of use in every case.



Photometric curve of light distribution of the new Holophane window-lighting reflector

No permanent deterioration either from dirt or the heat of the lamp.

Ease in cleaning. Being of pressed prismatic glass and perfectly smooth, it may be cleaned without removing from the holder.

Correct color value. The clear crystal glass makes no change whatever in the color of the light.

Low cost. In the commercial success of any article this is a consideration second only to efficiency itself.

The illustration shown is from an actual data sheet such as are furnished by the Holophane Works on request.

Clever Federal Slogan

"Make every lamp socket a household servant" is a slogan being used by the Federal Sign System (Electric) in its campaign to sell heating and motor-driven appliances to the public. The Federal people are now making or jobbing some twelve or fifteen popular utensils for household use, and are building up a substantial business in this line.

D'Olier Joins Hubbell

Henry D'Olier, Jr., who for some years has been in charge of the manufacture of Holophane-D'Olier steel reflectors for the Holophane Works of General Electric Company, has joined the executive department of Harvey Hubbell, Bridgeport, Conn.

New Fan-motor Device

A combined snap switch and separable attaching plug, a device for increasing the flexibility of fan-motor control, has recently been marketed by the General Electric Company. The separable cap consists of a single pole snap switch with two finger contacts which fit into the body of a separable attaching plug. The attaching plug, in turn, is screwed into any available socket or receptacle; and from this point, the fan or other portable can be turned on or off. The switch cap may also be used without the attaching plug, as the finger contacts fit any standard G-E separable receptacles.

Vehicle-makers Combine

The Baker Motor Vehicle Company and the Rauch & Lang Carriage Company have completed their consolidation arrangements. The new organization is known as the Baker R. & L. Company, capitalized at $2,500,000.

This merger should be of immense practical advantage to the central-station industry as well as to the vehicle industry. The combined output should enable the new concern to manufacture on a quantity basis, while the greatly increased service facilities, on the one hand, and economies in engineering, overhead and selling expenses on the other, are all sure to reflect to everybody's advantage.

Greenwood Signs Have ADVERTISING Value

Perhaps in the past, we have insisted too strongly upon the

Individuality

of Greenwood Signs. Here is one in which ADVERTISING VALUE predominates. This rather simple sign is erected at Ocean Park, in full view of the bathers. Naturally, the bathers do not carry their watches into the ocean. So we incorporated a clock into this display and the bathers — hundreds, even thousands of them every day — read the sign to learn the time. So the East Side Brewing Company's sign is as effective by day as by night — and all because we know something about ADVERTISING as well as about signs. You want

Individuality

in your signs, but you also want ADVERTISING VALUE. You get both when you employ the service of

Greenwood Advertising Company

Knoxville, Tenn. **Los Angeles, Calif.**

An International Distribution

Not only are G. V. Electrics distributed in 43 of the 48 States but they are used in 9 foreign lands as well. General Vehicle prestige has had a great influence on our foreign sales, but the *quality* of the trucks—their efficiency under a wide range of climatic and other operating conditions—has been an even more important factor.

Our policy of "specific adaptability" concerns itself with the hard problem as well as the easy one. We make G. V. trucks pay in the mill yard, where the hauls in some instances are not over 300 feet long, and there are 16 stops in a round trip. Little specially designed bin-like trucks with ball bearing castors are loaded with bolts of cloth, yarn, etc., and run on to the big trucks, thus saving time and reducing labor costs. We overcame the long haul problem by installing larger batteries or placing relay batteries at the out-of-town end of the run.

In Australia, South Africa, Brazil, the Philippines, etc., G. V. Electrics are re-making transportation history. Every problem we solve helps us with *your* problem. Ask us for data on our vehicles in your line of business. Remember we manufacture six models (1,000 to 10,000 pounds) and have been making commercial vehicles exclusively for 14 years.

Write for our catalogue.

General Vehicle Company, Inc.
Long Island City, N.Y.
New York, Chicago, Boston, Philadelphia

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2514

Valentine Porchlight No. 7
Retails at $3.00
delivered

The VALENTINE HOUSE-NUMBERED PORCH-LIGHT

(PATENTS PENDING)

Here is a popular, *quick*-selling electrical convenience which *every* householder wants and can afford to buy on sight. You get the order *easy* and money quick—and every one sold means 15 cents a month *velvet*, on the current bills.

Think what it would mean to have *whole streets* in your residence districts with a lighted porch number on each house! Then figure what it would mean in *revenue!* If you only sold a thousand it would mean 1000 x 15c x 12 months = $1800.00 per year.

The Valentine house-numbered porch-light is *wanted*. People do *not* want their porches *flooded* with light—they want *just enough* illumination to see who's there, just enough to read by under the light. People switch off a big porch-light quickly when it is not *absolutely* needed—they will burn a Valentine light *all night every night.*

"How you can burn your porch-light all night"

is the title of a folder which is furnished central stations, with imprint, for enclosure with bills. Or if new business managers will send us lists of porch-light prospects we will correspond with prospects direct.

The porch-light is not a stock article. Each is made up to your requirements.

VALENTINE ELECTRIC SIGN COMPANY

ATLANTIC CITY, N. J.

MAIL DEPARTMENT

Valentine Porchlight No. 9
Retails at $3.50
delivered